VOICE BUILDING

KD 57299

CARL E. DUFFT,

57 D. 2nd ave
Mt. Vernon N.Y.

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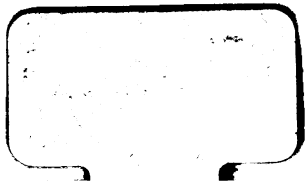

VOICE BUILDING.

A

NEW AND CORRECT THEORY

FOR THE

MECHANICAL FORMATION

OF THE

HUMAN VOICE.

BY

DR. H. R. STREETER.

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PREFACE.

The present work is the result of more than twenty years experience. It has been undertaken at the earnest solicitation of friends and pupils, and it is believed to be the only work which really treats upon the mechanical formation of the human voice.

Many theories are before the public which are designed to form and develope the voice. Musical authors and elocutionists have presented to the public a mass of material which, to say the least, is contradictory.

Our experiences are here embodied, and we sincerely hope that they may prove beneficial to all who feel an interest in the art of Voice Building.

It will be observed that we have confined our treatment entirely to the mechanical part of the work; forming the instrument, so to speak, by following fixed laws or rules, which prove themselves to be practically correct.

HORACE R. STREETER.

NO. 1.

CHAPTER I.

The original plan of this work was to present in as few words as possible, the mechanical portion of the art of Voice Building as we understand it, and as our experience had taught us to be correct. In our view that seemed the most advisable course to pursue, and we prepared and copyrighted a work upon this subject several years since.

During the past year, however, we have been constantly employed in educating teachers and public speakers in our peculiar views, thus resuming an occupation which for ten years we had relinquished; and the demand is to place the subject of Voice Building upon its proper basis. This we propose doing as thoroughly as lies in our power; and while we intend to speak freely, we hope to offend none.

That there should be great diversity of opinions upon this subject is not, perhaps, strange; but that a difference of opinion should provoke so much ill feeling with some is, to us, very strange.

Many seem to think that asserting a thing is all that is needed to constitute it truth. One asserts a thing, another makes a different statement in regard to the same thing, while a third party has views widely differing from both. Thus we have endless assertions with no proof of their truth. Practical results do not warrant many of these views; but each one deems himself at liberty to make any statement he pleases; and having made such a statement it must

be believed, whether reasonable or not. It is very often the case that the views of some prominent writer upon the development and use of the voice will be quoted, and those views will be insisted upon as truth, no matter how unreasonable, or how incorrect they may be. The mere fact that a Professor, a Reverend, or a Doctor so and so, has made the statement is deemed conclusive evidence of its truth, and it is promulgated as such. The page of history is full of instances of this kind, and it sometimes seems as if those who are the best educated are fated to make the grossest blunders.

Not only as it regards the human voice, but in all directions we see proofs of this, and the higher the authority the more readily is the mistaken view received. Once asserted, it is taught in all directions, till, in due course of time, some one sees the error, and has the courage to expose it. He then becomes "a mark for all to shoot at;" and if he is not utterly destroyed, he is pretty sure to lead, at least, a rather uncomfortable life.

Doubtless this is all a discipline necessary to our development, but that it is justice we have yet to learn.

Not many years ago, Sir Humphrey Davy demonstrated to the public that no large city could be illuminated with gas! It is not long since Dr. Lardner *proved* that a steamship could not safely cross the ocean! And not many years have elapsed since Liebig put forth his theory of nitrogenous and non-nitrogenous substances, which was taught by physiologists the world over. No one disputes the ability

of these great men, neither do these mistakes lower them in the estimation of philosophers. Their erroneous opinions only prove their humanity, while their greater benefactions to mankind stand out in lasting colors.

In the department of voice culture, or, as we prefer to name it, voice-building, there are the widest differences of opinion, and we propose to place the views of a number of the most prominent writers upon this subject, side by side. In doing this we shall strive to do justice to all, our sole object being to elucidate truth. It is a somewhat difficult task, as some of the terms used by a portion of these writers, and which are still in use among many teachers, have a very different meaning to-day from what they had fifty years ago. We shall, however, endeavor to give these different views fair consideration, and place them truthfully side by side.

Some forty years since, a strong effort was made to form a Conservatory of Music, in the city of Boston, which should be fully equal to anything of its kind in the world. The wealth and intelligence of the city combined to make this a success, and it was the origin of that patronage which has to-day made similar institutions a "part of the Hub" itself. Among other accessories was a newspaper ably conducted by the professors of that so-called Academy of Music. It is not necessary to detail the efforts used to make this Boston Academy of Music a living institution. Thousands of dollars in money were expended; the ablest professors were employed, and the most unbounded liberality was shown in every de-

partment. As a matter of course, then, having unlimited means at command, it is to be presumed that they made the best possible selection of theories, or technical works in the different departments of instrumentation and voice.

Their selection for vocal culture was Molineaux's work. In an article upon the voice he says that "there are in every voice, three ranges or registers of tone, though in some much more marked than in others." Each of these registers requires separate treatment, and another treatment to unite them so as to form a perfect scale. He does not stop here, and leave us in doubt as to his meaning, but classifies all voices, gives the particular notes belonging to each register, and also those which are to be acquired. He is plain and explicit, in his statements, and we are bound to receive them as the honest exposition of his views respecting registers whether correct or not.

Here we remark that Molineaux's opinions are to be borne in mind. Previous to his time, it was the received opinion of many, and the same opinion obtains among many to-day, that there are three ranges or registers of tone in every voice. He clearly intended to convey the idea, that by register he meant a certain series of sounds. He so states that fact, and then illustrates his meaning by notation.

We are well aware that a different construction is given to this term register. Before discussing the matter, however, we prefer to let each author speak for himself. These writers probably knew what they meant quite as well as those who followed them, and

we deem it more just to allow them to speak for themselves. Here then, is a fair, honest statement (a copy of which is in our possession), of one selected by competent professional men as authority in matters of voice culture. These views were published in 1832, and were disseminated through the medium of the Boston Academy's newspaper.

A little before this, the celebrated Dr. Rush had issued a work called "The Philosophy of the Human Voice." It is not, perhaps, too much to say that no work upon this subject has ever appeared, which has been more relied upon, and quoted as authority in matters of voice than this. Professed elocutionists, clergymen, theological students, and public speakers generally, both in this country and in Europe, hold up this work as the oracle for all. It is a singular fact, though, that in an experience of nearly thirty years we have never found an individual who could tell us what Dr. Rush's views were. We have made the inquiry very many times, of those who quote Dr. Rush, asking them to tell us what his Theory, or his Philosophy was. Not one could tell. A prominent professed elocutionist, recently employed by the authorities of Boston, was asked this question. His reply was an elaborate eulogium upon Dr. Rush's great ability; and when pressed for an answer to the question—"What is Dr. Rush's theory?" he merely repeated what he had already said, leaving the inquiry wholly unanswered.

Dr. Rush states his views plainly; and unlike some who have written upon this subject of voice, when he was in doubt, or did not know surely his position,

he had the courage to admit the fact without hesitation. Thus he says, respecting the Orotund quality of tone, that the "manner of its production he does not know." But we give his views as he states them. He does not use the term registers at all. He moves from a different stand-point, reasons in a different manner, and places the formation and development of voice in a totally different light. His premise is that the element A, sounded without intensity or emotion, is diphthongal. That the close of the A is the element E, and that it rises, or changes its pitch a tone, when articulated in that manner. Upon the same page, he further states that this effect will be more apparent if the element is uttered with surprise or some other emotion. Here is a plain contradiction. In the first place, the status was that the element should be uttered *without surprise or emotion*, then the pitch of the tone would rise one degree. In the second place, the utterance of the element *with surprise or some other emotion* would perfect the experiment, and make it plainer. He then, for a page or two, discusses this phenomenon and then proceeds thus. "The element A is, then, diphthongal in its character, and it does rise concretely (sliding) through the interval of a tone. Yet, care must be used *not* to utter the element with surprise, or emotion, or any other expressive sentiment, for, if so uttered the interval traversed will be other than that of a tone, or it will be in a downward direction." Throughout his work he conveys the idea of the voice forming, or dividing itself into distinct intervals of thirds, fifths, and octaves.

In our opinion, the probability is, that, had it not been for the commanding influence of Prof. Wm. Russell, this work would never have been quoted as authority in matters of voice. It is, however, honestly given to the public, and as an exposition of voice development, in the department of elocution, it is to be respectfully noticed.

About the time that Dr. Rush's work appeared, the celebrated Lablache wrote. He, like other eminent men, received the endorsement of able minds in the department of song, and his views have been, and are quoted to-day as ample authority in the formation of the human voice. Both in Europe and in America, Lablache's name is a household word, and his supporters are numerous, intelligent, and well-educated. He takes the ground that the female voice has three registers, while the male voice has but two. He also claims that some male voices should be cultivated through one register only.

Another (in this country at least) very prominent writer, and one who is quoted far and near in relation to voice culture, Carlo Bassini, claims that there are three registers in the human voice, but that the male voice should be cultivated, without exception, through one register. This statement appeared in one of a series of articles published in Richard Willis' New York Musical Times, and it is still in existence. It is here to be remarked that Bassini's advocates are as strong and influential as those of any other writer. There is, however, a doubt in our mind as to his being the originator of these views, for at the time this series of articles was being published, there

was a work already before the European public edited by Panofka; and the ideas of these two writers are exactly the same. Yet, this makes no difference. Both writers are prominent, able men, and they have stated their views plainly.

That we have fairly stated the views of these different authors will be seen by reference to their works. That they are all educated men, that they have each acquired a great reputation, and that each is quoted by his advocates as reliable authority in these matters of voice, is indisputable.

What, now, are we to do? In the elocutionary department the statements contradict themselves. In the department of song, one says three registers; another, three in one kind and two in another kind of voice; and yet another, while claiming that there are three registers, insists that male voices, without exception, are to be cultivated through one register. We long since came to this conclusion: that, if those who occupy positions of authority, and are quoted as such in these matters, differ in their opinions, *some of them must be wrong*. We understand perfectly, all the shuffling resorted to by interested ones respecting this subject of registers; but place the matter as they will, when writers flatly contradict themselves and each other, the conclusion is inevitable that some, if not all, are wrong. Fix it as they will, discuss the meaning of the term register as much as they please, viewing the subject from any stand-point, this conclusion remains: that, when writers, teachers, or professors differ in their views upon a given theme, they cannot all be correct. Some must be mistaken, and

moreover, it is just barely possible that all are so. It is possible, that, starting in a wrong manner, or assuming for a premise that which did not exist, their conclusions are all incorrect.

One or two other very prominent persons are to be noticed in this connection. And we place them last (but by no means least), as they show quite as contradictory opinions in another direction. One of them, the celebrated Garcia, claims explicitly, that a knowledge of anatomy is absolutely needed in order to teach the formation and development of the voice successfully. Many others of lesser note advocate the same view, and some add to this, as indispensible, a knowledge of Physiology. In regard to Garcia, no one dreams of disputing his great ability. However high other teachers may stand, perchance, in their estimation, all readily accord to Garcia a very high position. We need not detail his labors, or give the names of his artistic pupils. What we have to do is with his opinions respecting the formation of the human voice; and these are, that there are three registers, and that a knowledge of anatomy is needed for the teaching of voice culture.

A few years since, still another work upon the formation of the human voice appeared, and it to-day commands attention, and is quoted as authority by very many. The writer reviews the whole subject of voice formation, enters more elaborately into details than even Garcia, and has outstripped him in the use of his own invention. With the aid of the Laryngoscope, this writer has seen phenomena which Garcia never discovered in his experiments. Elaborate

drawings are given of the position of the mouth, pharynx, and larynx, in the production of tone. The voice is by this writer divided into five registers. And the whole matter, after copious, detailed discussion, is quietly dismissed with the remark that a knowledge of these things is of no practical use whatever.

Again, we ask, what are we to do? Where is the truth respecting the formation and development of the human voice? Which writer has correct views upon this subject?

In our opinion there is but one of two ways for any one to adopt. Either make a selection from this contradictory record, and venture finding the correct writer, or else sweep out the whole and commence anew. Adopt, if possible, premises which are self-evident, or which prove themselves to be practically correct in every case, and then proceed.

We may differ from others in our method of voice building, yet we propose to differ kindly; our object being the elucidation of truth in this department, and nothing more.

CHAPTER II.

Having examined the record, and having noticed the conflicting opinions of different writers upon the subject of the formation of the human voice, it may be of interest to try to determine how these mistakes were probably made. And in this connection it occurs to us that many have inquired of us how we came to adopt our present views. Others wish to know what first led us to think upon this subject. And a greater many have inquired of others, not of us,—"Who is Dr. Streeter? What does he know about voice? If his views are correct, why were they not discovered before? How is it that some one in Europe has not discovered them?"

During the past year, we have been complimented by many whom we have never seen or spoken with to this day, with the terms—"Humbug," "Fool," "Ignoramus," "He's no musician," "He's no artist," "What does he know about this matter?" &c. &c., to the end of the chapter. All this does not disturb us in the least. We have lived one life in an atmosphere of this kind, and an experience of some twenty odd years has quite accustomed us to this sort of abuse. And now, after an absence of some ten years from the field of teaching, we resume our labors in that direction, at the earnest request of friends, quite prepared for any amount of such inquiry. We beg leave, however, to suggest to these "honest, unprejudiced inquirers after truth," that if they really wish to know whom, what, and how we are, if they wish

to make themselves familiar with our deficiencies, as well as our ability in any direction, they will be quite as likely to learn the truth by applying at head-quarters.

More than thirty years since, we commenced the study of singing, and at one time were a member of every musical society in Boston, with but one exception. Upon one occasion, while rehearsing the Oratorio of "Joseph and his Brethren," we noticed that we produced the note A, the fifth line in the Bass clef, in a particularly satisfactory manner. A few measures farther on, the same note occurred again, but to our surprise, our effort to produce it as before was an entire failure. We could produce nothing resembling the previous tone. This occurred again, and at the following rehearsal the same phenomenon presented itself. To us this was a serious annoyance. Our intentions were to make the same effort in both cases, and as we had precisely the same surroundings, and were singing at the same pitch, we supposed, of course, that we should develop an equally satisfactory result in both attempts. Such was not the fact. One effort produced a tone entirely satisfactory, the next one was a failure. To us the fact that we did produce a good tone, albeit unconscious of the method, was proof conclusive of our ability so to do. How, then, did we produce that tone, and how could we become sure of producing good tones at all times? We at once applied to those who were presumed to know, for assistance in this matter. One would tell us to do this, another to do that. One would say "get the right grip and then hold on." Another

would tell us to "practice, and it would all come right in time." But how to do this or that; how to get that "grip" to hold, or how to practice, they did not tell us, and we gave up farther effort in that direction. One of two things seemed certain. Either we were exceedingly stupid, or the teachers themselves did not know what they pretended. We then turned to the authorities, and read what they had to say. A short time, comparatively, convinced us that these so-called authorities were as contradictory, and as mythical as the teachers. However, we persevered through a series of years, till we developed, practically, this present method of voice building. For more than twenty years we have taught it, and have yet to see a single instance where it has failed to perfectly satisfy all who have studied it.

The old teachers, like those of the present day, noticed that in many voices there was apparently a break at a certain pitch, in producing tone, this break appearing in a majority of voices, though not in all, and the pitch at which it occurred varying in different voices.

Whether this was necessarily so, or whether it was the result of bad management, was, and is, an open question. It was sufficient, it seems, for them to assume that this phenomenon, or break, was an absolute necessity. They so stated it. They so taught it; and they teach and say the same thing to-day. We have shown by reference to their works that they vary as to the number of breaks into which a voice of necessity separates. Some have one number,

others have another; all, however, or almost all, agree that the voice does necessarily break, or change at some point or points in the scale. Now we would inquire whether or not this break is a desirable thing. Is it not a defect, and are not the efforts of all teachers directed to the eradication of the defect, so as to develop an even, true scale? They certainly are, and no one, we presume, will dispute the assertion. Why, then, dignify this error, or defect, into the position of a necessity; a fact to be inculcated; a something to be laboriously acquired, only to be discarded, if possible, at a later day, as an error?

Such is the course pursued, strange as it may seem; and we have had several pupils during the past year, who were quite convinced that this erratic, not to say stupid, method of procedure was necessary. These pupils, we beg leave to remark, are quite artistic in their performances, and are so indorsed by those competent to judge of their artistic merits. Their performances are favorably received by the public. And their experience corroborates our own respecting the teaching of this break or register, as a necessity. In a word, then, if this defect shows itself, which we think wholly unnecessary, it is to be remedied by judicious treatment. It is not to be encouraged, or taught, any more than any other error or defect. And our opinion, is, after these long years of experience, that this is an imaginary difficulty which may be avoided with perfect ease.

CHAPTER III.

Within a short time, another work upon voice culture has been presented to the public. The inference is that the ideas therein published are original with the author, and we have repeatedly heard him quoted as authority in these matters, both in public and private. We are well aware that when pressed in this direction, he takes a very different position; but the impression is carefully conveyed to the public, that he was educated in Europe, also that the views published in his recent work are original with himself.

He personally denies all this, so we are informed, but places the responsibility upon the shoulders of officious friends, who, he says, make these statements. Public prints make the same assertions; his friends repeat them in public and in private, and he allows them so to do. The inference is, to our mind, that he desires this state of things to continue. In the work above referred to, the writer has ingeniously managed to make an endless number of mistakes, and it is with a portion of the work that we have at present to do. He refers to certain Breathings, such as Abdominal, Dorsal, Waist, and Intercostal. The idea is that a special development of these muscles is needed in forming the voice, and he has taught in this direction for years, much to the injury of his pupils. We are informed, very recently, that he has nearly, if not quite discarded such practices of late; still the use of them is advocated in his recent publication, and it is assumed that he is the originator of these

views. Such is not the fact. Like most of the matter contained in that work, these ideas have been appropriated by the author without proper credit to the sources from which they were obtained.

Breath, or air, being the motive power in the production of tone, the idea of specially educating muscles to expel it, is, to say the least, plausible; and ingenious seekers for truth have appropriated this idea and labored honestly to develop it; while others, neither so ingenious nor so honest, have advocated the same, and left the public to infer that they originated it.

We need not look far for abundant proof of the fallacy of this method. In every city there are large numbers of artists who devote six or more hours, daily, to practice upon wind instruments. There are orchestras and bands composed in part of this class of artists. There are numberless amateurs, also, well schooled in performing upon wind instruments, and in every town and village in the land there are some who devote a portion of their time to such performance. Breath, or air, is their motive power, precisely as it is with singers and public speakers. The same classes of muscles are used to control and direct this motive power, yet, who, let us inquire, ever heard of an individual among them who ever dreamed that the study of these Breathings was necessary? A majority of performers on wind instruments never even heard of such a thing. For our own part, an extended experience in the study and practice of this department of music, enables us to speak from abso-

lute knowledge; and years of study devoted to voice building and the art of singing, confirm the experience acquired by practice on those instruments.

We pronounce, without hesitation, the use of these breathings as taught by elocutionists to be unnecessary and injurious. Even among professional writers upon this subject, there are many who impress upon students the necessity of care in the use of such exercises. They mention some of the ill effects arising from their use, and teachers are daily becoming more cautious.

The author above referred to, so we were told some three months since by a Rev'nd student of his, stated to this student that these breathings are not much used at present, and that they *had been but rarely employed by him for the past two years*. Also that they were used only in special cases. In our opinion the less they are used the better. Better discard them entirely; and admit what their practice demonstrates, that they are not only useless but absolutely injurious. The author's work under consideration, appeared within two years. If these breathings are not much used, or used only in special cases, why, we ask, did he publish them for the use of the public? Why did he not leave them out of his work, and not allow the public to infer that they were his ideas, useful and needful in the development of voices?

The subject of respiration is one of great importance, and those who hope to excel in their performances, whether as public speakers or singers, or as players upon wind instruments need careful study in

this direction. It is desirable, however, to study respiration properly. The study of Anatomy will not help us. The question is not as to the shape, location, and connection of the muscles used. Neither will Physiology benefit us. The vital properties of the parts are not under consideration. The whole subject comes under the heads of phrasing and dynamic expression; and the real study is how to control and deliver this motive power properly.

The wind-instrument performer will study his embouchure. The public speaker or singer will give proper attention to pure articulation, which will assist him in so locating tones that there will be no waste of breath. The proper method is to inhale air as rapidly as is convenient or necessary, and exhale it as slowly as the exigency of the case requires. Then, if one has a correct idea of phrasing, and a reasonable practice, he will be able to deliver this motive power or breath, in such a manner as to render his phrases intelligible in either speech or song.

One great error respecting the so-called breathings is, that they do not in the least, educate or develop the parts which vibrate in producing tone. This motive power, or air, should act upon something, and that something is the part which vibrates. It is called the vocal chords.* These are situated in the larynx, and are brought to a requisite degree of tension by volition. This motive power is, then, to put these parts in motion; and that product, or those

* Some anatomists deny the existence of these vocal chords. See Sharpey and Quain's Anatomy, Vol. II.

vibrations, are to be disposed of elsewhere. That elsewhere is in front of the larynx, not behind it; above it, not below it. Bearing this in mind, and it is a self-evident fact, what sense is there, let us ask, in pumping and forcing inward and outward, the muscles of the abdomen? Even the manner of using these muscles is wrong, injurious and dangerous. It is flexible strength; we repeat it, flexible strength which is required, and not this sudden, spasmodic contracting of muscles. And so of all these breathings, every one of them. They are wrong in theory, wrong in the manner of application, useless in developing the vocal apparatus, and dangerous both locally and constitutionally.

In voice building the vocal apparatus is the part to be educated. The motive power which acts upon that apparatus is air. That air should be conveyed to the larynx in a flexible, steady manner, and the product should be carefully located, or brought to a *focus of vibration* in the mouth. The pumping, or jerking, or forcing of abdominal, dorsal, waist, or intercostal muscles will never do this. We are almost tempted to ask the advocates of the breathings, why they stop at the abdomen; why not keep on and jerk and snap the muscles of the legs and feet? That would be just as beneficial and *much less dangerous*. Perhaps, however, this course would not "*make the surfaces resonant*!" What that means we do not know. But it was the reply given by the last-mentioned author, when asked why some of these breathings were used; that is, for what purpose they

were intended. In our opinion, the truth is, and we have not the slightest hesitation in making the assertion, that this whole matter of breathings is particularly stupid and injurious as applied in the practice of many elocutionists, and we will engage to develop voices in the most satisfactory manner without reference to any of them.

Again let us repeat it. Inhale air as rapidly as is required; exhale it slowly and without waste, and locate the product carefully. And in all cases, it matters not how powerful or how sudden, let this motive power be applied with flexible strength. Do not risk hernias. Do not risk rupturing the lungs. Do not risk the debilitating of the vocal chords by a sudden, ill-directed snap, or jerk, so that they can never give out tones. Lungs have been seriously impaired, and the vocal apparatus permanently injured by the use of these breathings, as the above author's experience has taught him. Hernias have been induced, and embouchures debilitated by too long and careless application of this motive power, or air. The brain suffers, digestion is impeded, the circulation is unbalanced, and the evils consequent upon the practice of such exercises are very numerous. Much more might be said upon this subject, but enough has been stated, we think, to direct attention in the right path, and to influence all, we hope, to entirely discard these stupid, injurious, unnecessary exercises.

Registers

CHAPTER IV.

Having spoken of the motive power used in the production of tone, we will now notice the movements of the parts which are acted upon by this motive power. A preliminary word or two may not be out of place, however, before introducing this subject.

When one differs from the popularly received views of truth in any direction, no matter how honestly, he is not likely to be complimented, to say the least. The history of the world shows that all who propagate new ideas for the benefit of humanity, are not welcomed upon their advent, by those with whom they differ. The prejudices of persons seem to act first, and strongly; and after their second, sober, serious thought takes possession of them, they slowly admit what is presented to them.

With very many, and professional persons too, the idea that any one should dare to differ from them, is considered absurd. "Down with him!" "Crucify him!" is the word, and in too many cases they are successful.

We honestly believe that Deity gave every one the right to have an opinion of his own, and we believe that all have a perfect right to advocate their opinions in any proper manner and upon every proper occasion. Freedom of thought and liberty of speech are peculiarly our birthright as Americans, and we propose making free use of the inheritance entailed upon us. We concede to others the same rights and privileges, and it always gives us pleasure to exchange

opinions with them, when the object is the elucidation of truth.

The commonly received opinion is, that in the human voice there are three registers or ranges of tone. A majority of persons, perhaps, are positively sure that such is the fact, and they so advocate this opinion. Others just as honestly think that these registers, or ranges of tone, exist in a greater or less number than three. Others differ from both classes named, and think that this idea of registers as conceived and taught, is incorrect. It is desirable to get at the truth in this matter. How shall we do it? Many years since, while the Rev'd John Murray was delivering a discourse upon Universalism, some person threw a large stone at him. It crashed through the window and fell upon the floor. He picked up the stone, which weighed fourteen pounds, held it up to his audience and remarked to them, "Brethren, this is a solid and weighty argument, but it is neither rational nor convincing." We cannot persuade ourselves that scurrilous epithets are any more rational or convincing than weighty stones. In spite of the severe visitations we have for nearly thirty years received, and which we are still receiving from professional brethren with whom we differ, we are yet of the opinion that logical reasoning is the best argument with which to disseminate truth. Ridicule, misrepresentation, abuse, everything of the kind, may be used, but they are not argument. They may, it is true, as they have done, hold the sway for the time being. It is, however, only a question of time

for truth to develop itself and enlighten humanity.

We believe that the idea of registers in the human voice is radically wrong. Whether the advocates of registers mean by that term, a series of tones, or some peculiar shading or quality of tone, makes no difference to us. We are convinced that the idea itself is radically incorrect. The question, then, stands thus. Some think that there are a greater or less number of registers in the human voice. *We do not.* And here we remark, that, quite recently, an able lecturer upon voice, in Birmingham, England, pronounced *the idea of the chest register to be stupid.* Who proposes casting the first stone?

But let us to the work. If we have a tone at all from this human vocal organization, it is the result of a volume of air acting upon muscular fibre. Let anatomists quarrel as much as they please as to the name of the part which moves. Let professional men throw dust as much as they choose, and let them insist upon a needed knowledge of Anatomy, Physiology, or whatever they please; after they have exhausted their techniques, the simple fact remains that a muscular fibre acted upon by a volume of air is that which produces tone from the vocal organs. To us it is absurd to attempt to mystify others. It is a simple, self-evident fact, and no one, we presume, will be unwise enough to dispute it; whether the tone produced is good or bad is another matter; but whether good or bad, this muscular fibre acted upon by a volume of air is what produces the tone. This muscular fibre is called the vocal chords, and that

name is good enough. These vocal chords are contained in the larynx, and their tension can be increased or diminished at pleasure. This, then, is what we have at present to deal with. The laws operating here, are and have been perfectly understood since the days of Pythagoras and Euclid. To produce a musical tone, this muscular fibre, or these vocal chords, must vibrate a certain number of times in a given space of time. The higher in pitch the greater is the tension and the more rapid are the vibrations. The lower in pitch the less is the tension, and the slower are the vibrations. Now all persons can produce the slowest number of vibrations which their organization will admit, or their lowest tone, and they can, as Dr. Rush expresses it, "concretely, or by a sliding movement," gradually increase the tension, so as to produce the greatest number of vibrations of which their organization admits. It is merely an increase in muscular tension, and the same volume of air will suffice for the experiment. More than this, it makes no difference whether the sliding movement is used or not. Does not every one know that the ability to apply muscular force, or tension, say to the amount of one pound, or ten, or a thousand, does not every one know, we repeat, that that ability contains all the power that is less than the one pound or the thousand? What need, then, of any break? But, says one, voices do break. Such is not our experience; and when we find those who by bad teaching, or otherwise, have formed the habit of breaking, we teach them to do differently, and we

are successful in each and every case. The principle is illustrated by all stringed instruments. Take a single violin string, sound the open note, and then, while it is in motion, slide the finger up, so as to increase its vibrations to its other extremity. Is there any break? Truly we can press the finger with more or less force, or we can draw a bow in different ways, or we can communicate a dozen different touches to the bow, and all of these would change the character of the tone, but would that change the acoustic law operating here? We ask again, is there, need there be, any break or change of register? It is useless for professional men to attempt to dodge this question. This is one face of it. It will not avail them to say that this is not what they mean by the term register. Many have taught this as their meaning of the term as applied to the human voice, and very many honestly entertain the same views to-day.

We have referred to stringed instruments as illustrating this principle. In a discussion held some years since, upon this subject of registers, with an artist friend who was perfectly sure that there were three registers in the human voice, this very course was pursued. After showing him how contradictory the records were, and how opposed to known mechanical law this theory of registers appeared to us to be, he, as a last resort, brought forward his violincello. He was an artist in every sense of the word, and he possessed the moral courage to acknowledge a fact when it was conclusively proved. "There,"

he said, "are there not *four* registers represented by those four strings?" We replied that his instrument represented a quartette of voices; that we were discussing a principle as applied to the human voice; and that if he would select any one of those strings, we would abide by his selection. Artist-like, he selected the fourth, or C string. That there should be no mistake in the experiment, we requested him to apply the motive power, which was in this case the bow. He did so, and commencing with the open string, we placed our finger at the nut, and moved it to the end of the finger-board and back again without stopping; he all the time drawing the bow. We then asked him to tell us, if he pleased, *where the first register ended, and where the second one commenced.* Grasping our hand, he thanked us for the experiment, and we believe that we still possess his confidence. But we have often thought that it was strange that he did not copy the example of some others and call us a fool, or a humbug, or some other polite name. We concluded that the opinion we had formed of him in previous years was the correct one, and that his gentlemanly honesty would not allow him to make a mistake of that kind.

This view, then, that the human voice divides itself, necessarily, into registers, will not stand the test of reason based on acoustic law. If it is disclaimed as not the true ground upon which to place this subject, let us discard it entirely. There are, then, no such things as registers in the human voice, if, by the term register is meant simply, a certain series or

range of tones greater or less in number. That there are other meanings to this term we are well aware, and we propose giving them attention as they arrive in their order. In the following chapter we propose a continuation of this branch of the subject.

CHAPTER V.

Muscular force, or tension, can, then, be applied to vocal chords in every possible degree, without a break, or register, occurring. There may be an application of power from the least amount to the greatest, and from the greatest amount to the least, and no register need appear; or a given quantity of power, either little or much, can be applied to these chords and retained, as in what is called an "organ tone." As we proceed, it is to be remembered that the motive power, or air, is delivered upon the vocal chords from below. That is, this air is expelled from the lungs into the larynx and passes out of the mouth and nostrils. We have remarked that the existence of vocal chords is by some denied. It is of no consequence whether they exist or not; we need not stop to quibble about the name, size, or shape of the thing or things which this air puts in motion. Call it what you will, it cannot be denied that through the action of air propelled through the larynx, something moves. That something we will call vocal chords, so that we may have a name with which to

convey an idea. If, then, these vocal chords move, that motion must be conveyed to the atmosphere; and the propelling force by which it is expelled from the lungs will necessarily carry it there. This volume of air will obey the law of motion which governs such things, and this is the law. So long as there are no obstructions, like a ray of light, or a wave of vibration, it will move in a straight line. If there are obstructions, the law governing those things will control them. That law is, that an angle of incidence, and an angle of reflection, is always the same. The idea is that if one thing comes in contact with something else, at an angle of ten, twenty, fifty, or any other number of degrees, it will be thrown off, or reflected, at precisely the same angle. We prefer this to a more technical mode of expression to prevent any possible misunderstanding of our meaning. A moment's thought will convince any one that this volume of air, which puts the vocal chords in motion, cannot move through the mouth in a straight line. The vibrations of the vocal chords are communicated to the air which surrounds them, and they are forced to the atmosphere through the mouth. (At present we omit the modifying influence of the nostrils.) During their passage they impinge against the sides and roof of the mouth. Of course, then, they must obey the law controlling these things, and be reflected by the parts with which they come in contact. What must necessarily be the result? Here are two movements communicated to the vibrations of these vocal chords. One is the direct, straight-forward movement given by the action of those parts which expel

air from the lungs; the other is the reflected movement of contact with the cavity of the mouth. These two movements *combine, and give a rotary motion to these vibrations.*

Collecting the sun's rays through a common sun-glass illustrates this principle. The tunnel, and the blow-pipe illustrate it. Having taken this rotary motion, there must be some one point at which they best support each other, or at which they best assimilate or unite. This one point we have named, *The focus of vibration.* This can be made perfectly plain to the eye, and so save all discussion, by a simple experiment. Take an ordinary magnifying glass, and collect the rays of the sun upon some object. If we place the glass upon, or close to, the object, there will appear a luminous ring upon that object. Move the glass, slowly, from the object toward the sun, and this luminous ring grows smaller, till, just at the right point, or focus, the object will be burned. This is what we mean by a "focus of vibration;" and it is produced through this glass, and through the vocal apparatus by the action of similar laws of motion.

It is a matter of great surprise to us, that these things have not been thought of before. And it surprises us still more when the truths are so easily demonstrated, and when they have been practically proved by hundreds, for a period of some thirty years, and while, also, they are so beneficial in their results, that the advocating of them should provoke so much angry feeling in so many directions.

The inquiry, "Where is the location of this focus of vibration?" is now in order.

In the production of audible, articulate language, there are two classes of organs used. One class produces sound. The operations of the several parts unite to give us sound, and this is all they can do. We need not distract attention by dragging into this matter things which do not belong to it. We leave Anatomy and Physiology, Therapeutics and the Materia Medica to their proper sphere, and concentrate our thought upon this subject of voice building. We need not even know the names of the parts used in the production of sound. We can say, as we have already said, that a volume of air acting upon muscular fibre produces tone; and we will engage, under any forfeiture, to not only thoroughly form voices, but also to teach others to do so perfectly, without reference to either of the above-named subjects.

When, therefore, we say, that in the production of tone, a volume of air is expelled from the lungs through the larynx, which puts the vocal chords in motion, we are not talking Anatomy. We are not speaking of the structure as concerning its individual parts, but speak of them as a whole. Suppose we use the term head, arm, leg. Is that Anatomy? We thus refer to these things, because a well-meaning, professional brother, not long since, seriously asked the question whether, when we used the word head to express which part of the organization we were referring to, we were not talking Anatomy!

Air acting upon muscular fibre produces sound.

The lips and tip of the tongue, assisted by the teeth, form language. And we class them by themselves when specifying their duties.

Here, then, are the two classes of organs used in the production of articulate, audible language. Either one of them can be used to fulfil its functional duty while the other is passive, or they can be taught to move harmoniously together at the same time; and this is the real study in a nut-shell.

Now we recall attention, especially, to the subject of registers. If, in the use of those organs which form language, no obstruction is offered by them to those organs which give sounds, nature herself will locate the tone in its proper position. Allow the parts to act naturally, and nature will be true to her mission. She will place that focus, or cone of vibrations, near the centre of the arch which forms the roof of the mouth, and the art is to keep it there while we educate these processes which form language and which produce tone, to their best development for purposes both of speech and song.

As we misplace this focus of vibration, or as we change the cavity of the mouth by opening or closing the teeth, or as in articulating language, we obstruct these organs which produce sound, so shall we have different qualities of tone. Can any one assume that this is what is meant by the term register?

We can force a large volume of air over the vocal chords in such a manner that the greater part of it is wasted. We can have a definite, positive pitch, but the sound produced will be loose, open and rough,

resembling very much what we call "hearing the wind blow;" and this phenomenon can, by some, be exhibited upon the whole scale of the voice. Is that the meaning of the term register? The other extreme, that of obstructing or holding the vocal apparatus stiff, will give us sounds which are thin, rough, perhaps, and unsympathetic; sounds which resemble in a greater or less degree, a railroad whistle, or a shriek. And this phenomenon can by some be applied to every note in the voice. Is this the meaning applied to the term register? If so, how many registers are there in the human voice? Who replies?

A majority of persons are taught that a certain hard, bawling, unsympathetic noise (it is not the proper tone of the human voice) is the one thing needful. They bray at the low notes, and screech at the upper ones, till exhausted nature succumbs; and after a few short years of laborious torture inflicted upon themselves and the public, they retire to give place to others who martyr themselves in this same fashionable manner. Is this what is meant by registers? One phase of this is the so-named "chest register" which has been correctly called, by a European lecturer upon voice, "stupid."

There are those who possess the ability to imitate almost every shade of tone. We have heard a perfect imitation of a military band given by the Steyermarkische family. We have heard the voices of animals, the songs of birds, the noises of mechanical trades, and very many other similar effects produced by the

human voice. All these were so perfectly done that it was almost impossihle to determine which was the imitation. Is this what is meant by registers?

If, then, acoustic law as applied to vocal chords, does not admit of break, or register; if the shading of tone after it enters the mouth is not register, what propriety is there in chasing such nonsense? All that is left, then, is that obstructed, wrong, functional use of the parts which is called "chest register." We repeat it, that it is not at all the tone of the human voice. It destroys voices. It utterly prevents such a thing as a duett, trio, quartette or chorus; for, in our opinion, it needs more than merely using voices at the same time to make either a duett, trio, or chorus. They should be in tune, and the tones should be sympathetic in quality, so that they can assimilate to each other. Voices, by the use of this register, cannot assimilate or sing in tune, and they can, at best, last but a short time. In our opinion, then, the idea itself of registers is wholly wrong. We must look in a different direction, and adopt a better method of development if we wish voices to last while they are used to represent the ideal creations of either amateurs or artists in speech or song.

Here, then, is the substance of this matter. Power, in greater or less quantities, continuous if desired, or increased or diminished at pleasure, can be applied to the vocal chords without break or register. The articulations, or movements of those parts which form language, are independent processes. When these two classes of organs are taught to fulfil the duties

for which they were especially designed, in the production of speech, the tone, or in other words, the collection of vibrations or cone of air, locates in a definite position. So long as this tone remains properly located we shall have a uniform, flexible, pure, sympathetic quality of tone throughout the whole compass of the voice. Every emotion, all quantities of power, every shading needed for the interpretation of every desired expression is admissible and within reach, and all moves harmoniously to a satisfactory conclusion.

In this way voices will wear. They will wear till age itself prostrates the parts. They will be sympathetic and pure in quality of tone, and most satisfactory in quantity. They will be all that is desirable as human voices, and till this method of development is adopted they never can hope to attain any great degree of excellence.

CHAPTER VI.

There are two classes of organs used in the production of audible, articulate language. One class gives us the movements which form language, while the other class produces the sound which tells us that those movements have been made. It is with those articulating organs, those which form language, that we have now to do.

By linguists, consonants are called labial, dental and lingual. As, however, consonants merely introduce, or finish words, and as they never sustain musical tones, we do not stop at present, to consider the movements which produce them. Elements of language, by which is meant the vowel sounds in contradistinction to consonants, are used to sustain musical tones, and it is to the movements which produce these that we now call attention. And here we remark that in all cases, flexible power alone ought to be used.

Dr. Rush says that the element A is diphthongal in its character, and that it has two sounds; meaning by this that it has two forms, one of which is A, and the other, the finishing form, E. Had he used the term form instead of the word sound, the statement would have been correct; but when he says that in the articulation of this element two sounds are heard, he misstates the fact. It is not necessarily so. This would necessitate a special action upon the organs of sound in order to change the pitch, and in the articulation of language this is not needed, as every motion necessary to the articulation of every kind of language, can be made without the production of any sound whatever. The Dr. need not have limited himself to the single element A. All vowels, or elements of language, excepting E, are, in their formation, diphthongal. A and I both terminate in E; O terminates in double O, as in the word boon, and the forms, or positions, needed for the element U are

even more than diphthongal. Each element has different uses, or forms in which it is used, in articulating different words. A appears in the words bay, bar, ball, bat; E appears in bee, bed; I appears in time, tin; and O appears in tone, top. We give a part of these forms merely to convey an idea. Now, no one will for a moment assume that these positions are sound. Let all try the experiment for themselves. Is it not a self-evident fact that these articulating organs can be placed in all these different positions, and many others, without the emission of tone or sound at all? Have not all, almost without exception, experienced this phenomenon?

If, then, we place the articulating organs in position for the speaking of a syllable, and then supply them with sound, is that sound what is meant by register? If so, we ask, how many registers are there in human voices?

Unless some controlling power is used, some proper method of vocalization, every different form necessary to the production of every different element in different words will have a characteristic quality of tone. A volume of water, or a column of air, or a cone of vibrations, each and all of them will partake of the form of the orifice through which they pass; and as they do partake of that form they will be, in a measure, thick or thin, rough or smooth, good or bad. Again we ask, how many registers are there in the human voice?

We have shown that the organs of sound,—muscular fibre acted upon by a volume of air,—are independ-

ent in their movements; that they are for producing tone only. We have also shown, we think, that according to known acoustic law, registers are not admissible by the operations of this class of organs. We have shown that these vibrations are, after they pass into the mouth, reflected by contact with the surrounding surfaces, and that they have two motions, the product of which is a rotary movement.

To resume, then, every form needed for the production of every element of language has a modifying influence upon the quality of tone, unless it can be controlled. And if we control it, it must be done in such a manner that the purity of articulation will not be interrupted. What portion of the organization does this? We reply that *it is the special duty of the body of the tongue to do it.* After these muscular fibres have been put in motion by a volume of air, those motions or vibrations are collected by the muscular action, principally, of the body of the tongue. By it, in a great measure, this cone of air is kept in its best position, or, as we term it, its focus of vibration. The movements which shape elements of language are almost endless in number. Shall we, can we properly call them registers?

The movements which accommodate the product of these organs of sound, as it regards pitch, quantity and quality, are quite as numerous. Shall we call these registers? If so, how many registers are there in the human voice, allow us again to inquire?

After the tone is located, or rather let us express it thus,—outside of all this, come the movements

which form consonants, and then the product of this complicated machinery reaches the atmosphere we live in.

Thus we have breath, or air, as a motive power; muscular fibre, or vocal chords, as the part acted upon to produce sound; the operations, principally, of the body of the tongue to collect this sound and locate it as its true focus, so as to have it satisfactory in quality and *true in pitch;* and then come the movements which form consonants, and which, so to speak, articulate tones and present them to our senses by healthful, flexible operation, and not by spasmodic, senseless, ill-directed contractions which must inevitably result in injury.

All the movements of this complicated machinery should be simultaneous. By the application of flexible power properly directed, all parts unite in harmoniously performing the duties required of them. Healthful development is the sure result, and the lasting power of all these classes of muscles is insured.

Some, we know, who have large, ponderous voices, claim that those voices are a result of their own training, when that training is, as we have shown, a violation of absolute law. Or, if they do not claim this personally, they give their friends to understand that such is the fact, and allow them to propagate it to the public.

There is not a shadow of truth in their assertion; and neither this country nor Europe, nor any other country, will ever be large enough, either in territory

or in intelligence, to hold the one who ever healthfully developed a human voice by violating any of the laws controlling such development. Its absurdity and falsity are wholly irresistible.

CHAPTER VII.

We have said that after the vocal chords are put in motion by a volume of air, the vibrations are collected at a certain point which we call a " focus of vibration," and that it is the office of the body of the tongue, principally, to do this, the tip of the tongue being more particularly used for the articulation of language. All wind instruments require laborious duties of the tongue, and even a hasty consideration of those movements may help us to realize how important is the study of that part of vocalization. Commencing, then, with the lips, we will briefly consider this subject.

Some years since, a musician, a former leader of one of our military bands, was suddenly gifted with the ability to whistle duetts. He could and did, in public and in private, produce two distinct tones through one embouchure, or orifice. He was not confined in his intervals to thirds or sixths, but could vary them so as to make a perfect duo from the commencement to the end of his performance. We presume that the considering of the act of whistling, either as the operation of a wind instrument, or as a

part of voice building, will occasion a smile, with many, one of even scorn and derision. "Those laugh best who laugh last," says the old proverb. The execution of this gentleman was a marvel of beauty; rapid, clean, perfectly in tune, and so charming that it was a mystery to all how it could be done. At a concert in old Amory Hall, corner of West and Washington Sts., he was recalled five consecutive times, on the same evening, by a delighted audience, who considered his performance entirely worthy of their endorsement.

In whistling, the tongue arranges the cavity of the mouth, so that the movements of the air shall be correct and the embouchure develops the tone which proceeds from it. The higher in pitch, the less the size of the cavity of the mouth, the firmer become the sides of the tongue, and the nearer to the orifice of the lips is the tip of the tongue directed. Lowering the pitch reverses all these movements. Here, then, is this same tongue giving direction to the same motive power before referred to, so controlling that volume of air that it produces beautiful music. If its controlling power is so manifest in one case, is it too much to suppose that it has also great ruling force in the other?

All wind instruments require a laborious study of the movements of the tongue, both for the purpose of directing the volume of air, and for phrasing. Vocalization requires the same thing. We have referred also, to the application of flexible strength in the use of the vocal apparatus, and this opens to us a wide field of thought.

Without hesitation we assert that in speech or song any obstruction of the operations of one class of organs by those of another will be detrimental. The human voice, as well as every other instrument, has a characteristic tone which belongs to it as an instrument, and if we know, and truly realize what has been done with other instruments, it may assist us to understand what has been done, and what is to-day being done to destroy voices. Destroy is the word. Voices do not, neither can they long survive the results of a lack of method in their formation and development.

Many years ago the flute was invented, and with many it is the favorite instrument. Charles Nicholson, one of England's greatest flutists, conceived the idea of increasing the power of this instrument. He invented, manufactured and played what was known as the Nicholson flute. The embouchure was so large that an ordinary thumb inserted in it endwise would not fill it, and the finger-holes were so large that ordinary fingers could not stop them. Nicholson was a very large man, and these things presented no obstacle to him; so with his great ability he acquired a great reputation. The size of the embouchure and finger-holes prevented many, (ourself among the number) from using such a flute at all. It was most difficult to play in tune, and after one had overcome this obstacle, the misfortune was that the instrument *had lost its characteristic quality of tone, and it ceased to be a flute.* Nicholson undoubtedly realized this, as he afterwards manufactured what is known as his large-

holed English flute, which was quite a different thing.

Some twelve years since, the tubing of brass band instruments had reached such an enormous size that they had to be, and are to-day, remodeled. E ♭ cornets were made of so large a pipe, or tubing, that it required more than human lips to last while performing the duties required of them. And we have in our mind three individual proofs of this fact. One resides in Portland, one in Boston, and one in Providence; all three leaders of brass bands. The embouchures of two of these gentlemen were almost entirely destroyed, (the other induced Hernia), by their extraordinary efforts to use these large-piped cornets. And, like the flute experiment, these instruments lost their characteristic quality of tone. So with this class of instruments right through, necessity compelled a reformation. One, too, which has been happily reached by our American manufacturers.

We might pursue this subject indefinitely, but neither time nor space will permit. How, now, is it to-day, with regard to voices? Is it not the prominent weakness of nearly all to aim at great power? Whether the physical organization permits it, or not, even if the tone degenerates into noise, *power*, *power* is the aim. "*Roar, roar, like tigers!*" was the instruction given by a prominent director to his chorus. If voices are thus used, and such is the fact, is it strange that there should to-day be so few good singers or speakers? Is it strange that voices do not last?

Every voice, and every instrument is capable of a certain quantity of pure tone, and no more; and when we go beyond that, the tone degenerates in purity, or the instrument suffers; perhaps both.

Protect voices, then, by a proper study of the use of the tongue, as well as all other parts of the organs of vocalization. Cease taxing them beyond their power of endurance. Articulate purely, locate the tone positively by the proper use of the tongue, apply flexible strength, and that only, to the parts used, and then we shall surely have more lasting, satisfactory results.

CHAPTER VIII.

Every performer in every orchestra and in every band, is expected to play in tune. That very many fail to do this is too true. Nevertheless, that is a first requisite, and any one who lacks the ability to do this is not considered, to say the least, a desirable addition. Brass bands particularly, fail in this respect. In very many cases the instruments are not in tune with themselves. The shape of the mouthpiece has, also, much to do with this matter. The size, too, of the tubing is to be taken into consideration, and the different embouchures. These, and other difficulties of an acoustic nature, all combine to make it extremely difficult for brass bands to play in tune.

More, very much more than a correct ear for sound is here needed. Still, notwithstanding all these difficulties, playing in tune is a first consideration and never to be lost sight of; one always to be insisted upon. Does not every one admit this? The same is exacted of every orchestra. What would be said of that leader, or director, who should permit his band or orchestra to play out of tune. Would he not be censured, as well as the performers? If, then, critics and the public are so exacting with bands and orchestras, ought they not to be quite as exacting with regard to voices? We unhesitatingly declare that they are not thus critical, and that outrages upon the sense of hearing are constantly committed which are passed by in silence. In all directions we hear from professional singers quite as often as from amateurs, performances which are sadly out of tune either with themselves or their accompaniment, and, moreover, tones which are so distorted that we can scarcely recognize them as coming from human vocal organs. Scarcely a criticism is ever bestowed in this direction. Why, let us ask, is this? Should less be required from voices, in this matter, than is exacted from instruments? Let a public singer appear today, pleasing in person, elegant in dress and manner, and let him or her sing never so badly out of tune; let his execution be impure, and his conception of his author bad; let him perform in a foreign language not a word of which is understood; let all of these failings, and more, appear in his performance, if he possess the ability, particularly at the close of his

song, to shout out and prolong a very high note, (upper C is the maximum note for Tenors) all is forgiven. The criticism is mainly spent in lauding this high note as the model for others to strive to attain. We do not fear contradiction here; such is the fact, and we refer to the public prints in proof of this statement.

So with bodies of singers; they sing frightfully out of tune, and this defect is hardly noticed. We do not complain or find fault. We merely call attention to the fact, hoping that all who can will strive to remedy this evil.

If some sing in tune, all can be taught to do so, and the question is, how can this be done. A leading professor, when speaking of singers, said to us that he thought that "two or three years longer study of technique would prepare voices so that they would last longer, and help them to sing in tune." Our reply was, that, if the years they had already spent in study and practice had placed them where they confessedly were, our opinion was, that the sooner they discarded their techniques, and adopted better ones, the better it would be for them and their hearers.

The processes which form language are constantly conflicting with those movements which produce tone. Singers, generally, have no idea at all of these processes, neither have they of a focus of vibration. Here, in our opinion, lies the true field of operations; and till they give up "roaring like tigers," and teach themselves to become more human in their speech, till they do away with the crudity of im-

mense power badly directed, or not directed at all, till they conform to the laws which control speech and song, mechanically speaking, till they speak naturally while locating tones definitely, they need never hope to mend. Meanwhile the words they sing will be lost, they will sing badly out of tune, their tones will be unpleasant, and the vocal apparatus will suffer premature decay. There is not, neither can there be, mistake in these assertions, and we repeat it, that, so long as these defects exist, there can be no such thing as a vocal duett, trio, quartette or chorus.

It is true, two or more persons may go through certain motions and produce certain sounds at one and the same time, but if those movements conflict, the voices will not assimilate or sing in tune, and under such conditions we fail to understand the propriety of calling them either duett, trio, quartette, or chorus. We call them merely so many isolated, disconnected solo performances in operation at the same time.

Pure articulation, perfect location, and the application of flexible muscular power, are the means needed to remedy these and other defects in vocalization.

We sincerely hope that this repetition will not prove irksome.

CHAPTER IX.

The experiences of life have long since taught us that it is an exceedingly difficult thing to make our meaning understood. The simplest idea expressed in the simplest manner, and in the plainest language, will often be so misunderstood that we do not wonder at Talleyrand's query as to whether language was given for the purpose of concealing ideas, or whether we might by its use exchange them. Yielding, however, to the necessities of the occasion, we proceed.

We wish it to be particularly understood that we are not dealing with individuals in this discussion. It is with their ideas, with their expressed views of voice culture, that we have to do. The names of authors must be used, but we do not refer to them as individuals. As men, they belong to themselves. Their opinions, however, which they have given to the public, belong to that public, and they are a legitimate subject for discussion. Disclaiming, then, all personality, we freely discuss these conflicting opinions upon the subject of voice, or voice building.

To us, it seems as if authors and teachers have labored in wrong directions when treating this subject. They do not seem to have at all appreciated either the work to be done, or the proper method of accomplishing that work; and the more extended our experience, the more confirmed are we in these opinions.

We have already stated in the earlier pages of this work, that Anatomy and Physiology are seriously advocated as necessary adjuncts in this department of vocal culture. Long dissertations are given, manikins are brought forward, and apparatus of various kinds is used to mystify (not enlighten) the public mind. If the object was to create a vocal apparatus, or if a surgical operation upon those parts was needed, a knowledge of Anatomy would be indispensable. But these things do not come under the head of vocal culture at all, neither have they anything whatever to do with it. Anatomy is the art of dissection. It teaches us the shape, connection, and location of all parts of the body, and it is a purely mechanical study. We attach to it the greatest importance when used in its proper sphere, but we protest against its distorted abuse when dragged into this development of voice. Let us consider for a moment, that the muscular organizations of both men and some animals are developed and brought as near perfection as possible, by those to whom Anatomy is a sealed book. Horses are brought to that condition of muscular perfection that they are enabled to accomplish the most astonishing things. Boatmen, runners, walkers, base-ball players, gymnasts, and others, reach a perfection in muscular development and powers of endurance perfectly wonderful. Anatomy receives from these no attention whatever. It is wholly out of place; and the trainer, while totally discarding it, devotes his knowledge and his energies in a different direction, and that he is successful is

beyond discussion. It will not answer to say that these are not parallel cases. We affirm that they are eminently so. The department of vocal culture has, as a first consideration, the healthful development of the vocal apparatus. That apparatus, as we have shown, is muscular fibre acted upon by a volume of air. Are not these what the trainers of horses and men have to deal with? What then has Anatomy to do in these departments? Nothing, we answer; absolutely nothing at all. We are born with this vocal apparatus perfect in all its parts. As educators in the department of vocal culture we have to do with the best development of this apparatus, and not with its structure or its anatomy. The building of an instrument is one thing; the development of its resources is a totally different thing; and the two should never be confounded. Who expects an organist, or a pianist, a violinist, or any other instrumentalist, to be familiar with the structure of those instruments, with, so to speak, their anatomy? No one ever dreamed of such a thing. These artist performers may have a general knowledge of the different parts of their instruments, and that knowledge is convenient so far as it enables them to convey ideas to their pupils; but that it is needed in developing the resources of those instruments is not true.

Deity has created us with a vocal apparatus, or instrument, perfectly constructed. Our study should be how to best develop the resources of this instrument; and, we repeat it, a knowledge of anatomy is

not necessary for the accomplishment of this demand.

A knowledge of Physiology is also advocated as a necessity in voice culture. And here is presented a serious difficulty. It is that of understanding what is meant by Physiology.

Let us detail an experience of the summer of 1869, and show how voice culture, or (as it was advertised) "the Physiology of the human voice," was treated before an intellectual audience, by an accredited teacher of "Vocal Gymnastics," in Boston Music Hall.

He presented himself to his audience to enlighten them upon the Physiology of the human voice. This audience was composed of some hundreds of earnest educators, both men and women, who would compare favorably with any similar body in the world. There can be no question as to the correctness of this statement. The lecturer stood high in the estimation of the city authorities of Boston, from whom he received a large salary; and his views are quoted as authority in the department of voice culture. With the individual we have nought to do; we claim the right, however, to discuss the opinions advanced by him. His apparatus was composed of two manikins of a part of the vocal organization, one large and one small, a glass tube some six inches in length (more or less) over one end of which was stretched a thin india-rubber covering, and a piece of birch bark.

The lecture was advertised to the public as one upon the Physiology of the human voice. The

public prints of the following day pronounced it a most able effort. They said the lecturer read an able paper upon this subject. Such was not the fact. He read no paper upon any subject. He delivered in substance, a lecture which he has made peculiarly his own for the last eight years, both in subject matter and in his method of illustration. The birch bark was stretched between the thumbs and blown upon. It produced of course, its legitimate noise, or sound, or tone. The glass tube was used to imitate the crying of a child, the bleating of a calf, and the quacking of a duck, all of which was successfully performed. As the public prints said, the audience received it well; but that the audience saw or appreciated the physiological force of this performance, these prints did not say. The audience laughed and seemed to enjoy the thing, and that seemed to encourage the lecturer. But we, in common with many others, utterly failed to see Physiology in this exhibition. Neither could we discover any allusion to that subject in anything which was said or done; and even if we had, we should have deemed it utterly inadequate to assist us in voice culture. Is it not astonishing, that at this present day, such grave mistakes could have been made by the public prints about one lecture?

Physiology treats of the vital properties, of the functional duties of things. It does not, like chemistry, tell us what ought to nourish, but it tells us what does nourish and how it does it.

As educators in the department of vocal culture,

our work is to consider the mechanics of this wonderful instrument, to teach what movements are best for its healthful development, and how to produce and control those movements. Once understanding these things, a moderate study will make them practical, and develop the vocal apparatus till it will healthfully respond to every reasonable ideal creation of artists in both speech and song.

The stupid drudgery of breathings, the study of irrelevant sciences, the necessity of ridiculous exhibitions, like the one above referred to, all will be dispensed with, and vocal culture, or voice building will be understood to be what it really is. It will be known to be a study of simple movements, which are controlled by laws easy to be understood, and which are easily acquired. Stripped of mysticism, voice building is a subject easily understood. Standing as it has, and as it does in some directions, buried in the fog of ill-directed labor, it is no wonder that it is looked upon as an exceedingly intricate subject.

About the time above referred to, another Professor lectured before this same body of teachers, in Bumstead Hall. He labored in an earnest manner to impress upon his audience the importance of a knowledge of both Anatomy and Physiology in developing the vocal apparatus; but we found it difficult to understand, in many respects, his precise meaning. He appeared to be much in earnest, and we believed him to have been entirely honest in his views, and all the more so as there was no attempt to deceive the public by the use of apparatus, which, to use the former

lecturer's own words, while commending its use on a certain occasion to a neighboring professional, "would make people think you know a good deal about voice."

Physiology, then, will tell us of those things belonging to its peculiar province. It will not teach mechanics, and we claim that the formation of voice is a mechanical matter, just as much so as the shaping of the hands for performance upon the pianoforte, of developing the movements of the arm, wrist, and fingers in drawing a violin bow, or in the formation of any embouchure for developing the resources of wind instruments. The mechanical work or the mechanical technique should come first; then, when we have sufficiently developed the resources of the vocal apparatus, when we can design what we wish to do, and feel that we shall with certainty accomplish our design, and this, too, before the effort is directed to the vocal apparatus; when we shall feel that every note in our scale is under control as to its pitch, its quantity and its quality; then, and not till then, is there room for other departments. Whatever of emotion we may have to express, whatsoever of dramatic coloring we may wish to give to a subject, and with whatever stress we may desire to impress a subject or phrase, all these things follow mechanics in voice building. Let us, then, discard anatomy and physiology as adjuncts in the development of voice, and first attend strictly to the mechanical part of the work.

CHAPTER X.

Voices are classified as being Bass, Baritone, Tenor, Contralto, Mezzo Soprano, or Soprano voices. We need not mention all the different terms used. The idea is, simply, that there are different kinds of voices, and we give each class a name when speaking of them. Many times has this question been asked us, "Do you use the same exercises for all these different kinds of voices?" We invariably answer that we do. "What," says the astonished inquirer, "do you use the same exercises for a Bass that you would for a Soprano voice?" "Yes," we reply, and it is really laughable to note the bewildered, astonished look with which this affirmative answer is received. These inquiries are honestly made, and we respect them accordingly; they, however, conclusively prove to us that there is gross confusion in the minds of these inquirers upon this subject of vocal culture.

We mean by vocal culture or voice building, the forming or the developing, or the training of the vocal apparatus, as an instrument, by known laws which prove themselves to be practically correct in their results in all cases. What uses, or what abuses, this instrument may receive after it is formed is an entirey different matter, which does not belong at all to voice building proper, though the two are very generally confounded. Let us illustrate. A friend has discovered a method of constructing a violin which is

far superior in our opinion to that of all other violin makers in the world, and his instruments are pre-eminent in every quality desirable in that instrument. Here is his violin culture, his violin building, or his mechanics. Does this imply, in any degree, his ability to interpret classic, or any other authors, in any manner, good or bad? Another friend possesses those artistic requisites which enable him to render the works of violin masters and classic authors in a most acceptable manner. Does his profound ability in interpreting classic difficulties imply any ability as to the structure of violins? Is, then, our meaning not plain? Voice culture, voice building, vocal gymnastics, call it what you please, is the mechanics of the thing, and not its æsthetic result. So far as they healthfully develop the parts, and control them, so that our scale possesses the desired requisites with which, assisted by the necessary artistic skill, the ideal creations of authors are produced, they are æsthetic, but no farther. The skill which creates a beautiful instrument, whether voice or any other, does not imply æsthetic ability in other directions, and it is this mechanical technique which we are now discussing.

When therefore, we speak of voice building, or voice culture, or the formation of the voice, we mean to direct attention to the mechanical movements of the vocal apparatus. And that is what the public requires, what applicants wish for when they ask for instruction upon voice, but, also, what they do not usually receive from either their miscalled Italian or English schools of singing.

We repeat, then, our answer, and assert that we use precisely the same exercises for all, when teaching voice building. Those exercises consist of five notes, recitations, a scale, and some few accessories, when, in our opinion, they are needed. These are all the material, so to speak, that we have ever used; but the treatment of different voices requires that these simple exercises should be used at judicious degrees of pitch. We are now speaking of adult voices. Children's voices require greater care and skill than those of adults. They are more delicate at that stage of development; they can safely use but a very limited compass, and that for a short time only, except in some particular cases. In any and all cases, however, be it children or adults, the same controlling laws exert their force; and for the successful development of any voice these laws must be understood and obeyed. The real object is to instil the right movement into the vocal apparatus. That, and that alone, is voice building properly speaking.

Let us take any occupation in which both sexes are employed; do they not receive similar instruction? Is not the technique of piano-forte playing the same for all? Does sex make a difference in this respect? Children are taught to walk and to talk, regardless of sex; and these different classes of muscles are developed in a similar manner by all. Mechanical trades, and the ordinary occupations of daily life are taught regardless of sex; why, then, should the vocal apparatus receive different treatment from other classes of muscles in its mechanical

development? It should not; and the day is not far distant, we trust, when the public mind will understand this matter.

The ordinary speaking tone is, so far as quantity is concerned, much the best with which to commence the education of the vocal apparatus in acquiring its proper movement. When these movements are acquired they are to be slowly and carefully developed by judicious training. A few minutes' practice at a time, often repeated, is the proper method, until healthy, flexible strength shall have been gradually acquired; then increase the length of the practice, and in the most careful manner apply increased power, and thus progress.

Do not hope to jump, or force voices into a premature existence. It cannot, safely, be done; for as certainly as effect follows cause, just so certainly the voices will be injured. The following remark has been made, and we commend it to the respectful consideration of all;—"Early maturity means early decay;"* and this is especially true as it regards voices. Like plants, like our organizations as a whole, let voices grow to maturity, and cease forcing them by injudicious means, to accomplish that which will surely result in their early decay.

Concerning the voices of children, we are astonished at the course pursued. In our view it is an outrage which should receive the severest censure. Some teachers oblige the children in the public schools to sing at a destructive pitch. There are

* Hiram Woodruff upon the Trotting Horse of America.

those, we are happy to say, who show better sense in their teaching, and so avoid lasting injury to their pupils. The former class insist upon it that these little voices shall be obliged to sing notes at a sharp concert pitch, upon D, E, F, G, and A, above the treble staff! The mere sounding of some of these notes by the children, would do no harm, did their vocal apparatus admit it. But as a very general rule such is not the case. Adult voices themselves, cannot continue this sort of practice a great while at a time, and many of them need careful teaching to enable them to reach some of those upper notes, even when they are fairly within their scale. What, then, must be the inevitable effect upon the delicate organization of young children, of that instruction which older, better developed pupils can scarcely endure?

One teacher, occupying a prominent branch of supervision over the primary schools of the city of Boston, has strenuously insisted that this self-evidently injurious course should be kept up; and when, on one occasion, remonstrated with, he became quite indignant. The teacher of the school was conscientious. She knew music; she knew voice building; but she had to obtain a special protection from the local committee, while judiciously teaching the little ones committed to her care, the art of singing.

It is wholly certain that no one can surely predict which child, or which children, if any, will possess a fine voice when arrived at years of maturity. Whatever excellence the voice may exhibit in the child, that guarantees nothing in the adult voice; and this

is another reason, in our opinion, for developing these delicate organs in children in the most careful manner. Children will, when pleased and not restrained, shout and sing to the extent of their power. They will, almost, "roar like young tigers." But if this is not acceptable in adult voices, if pure tone and pure articulation of words is desirable in older students, it is much more so with children. Voices are not alone concerned in this matter. Health itself demands more sensible treatment, and those who violate these healthful demands should be made responsible for the injury done in this most unscientific manner.

Bearing in mind, then, that "early maturity means early decay," and that the healthful growth of human muscles is a progression, not a sudden, solitary effort of nature or art, let us judiciously apply the same mechanical laws of movement in all cases; but, let us so adapt those laws, to both classes and individuals, that their results shall be sure, satisfactory and permanent.

CHAPTER XI.

We now propose giving brief attention to some of the prevailing defective uses of the vocal apparatus, more particularly among singers, which produce different characteristic qualities of sound. It would be an almost endless task, in our opinion, to notice them all, nor is this necessary, as a correct technique, or method, will remedy these defects.

First, then, we call attention to the subject of pitch. How many choruses, or choirs, or quartettes, or solo singers are there, we ask, who can sustain a given pitch in their performances without the aid of instruments? This defect is constantly intruding itself upon all occasions, in private and in public. Listeners are punished by this outrage upon the sense of hearing, and the performers themselves suffer from their lack of ability to sing in tune; for in very many instances no one can be more keenly sensible of this defect than those whom absence of method obliges thus to sing.

The idea is patent with many professors of voice culture, also with amateurs generally, that this failing arises from a defective ear. Such, we unqualifiedly assert, and without fear of successful contradiction, *is not the fact*. Singing out of tune, we repeat, is not always the result of a defective ear. It is a lack of method which prevents the performer from producing the tone designed, and which he hears perfectly in

tune. Proof of the correctness of our view of this subject lies in the fact that a majority, if not all, of those who sing out of tune, will readily detect this failing in others. Let them become listeners instead of performers, and they will prove by their criticisms that they themselves *hear* correctly.

Let us select a cornet, an imperfect one, and request a skilled performer to play it in tune. Will he not tell us at once that it is impossible? That the instrument is not in tune with itself? Regardless, then, of his correct ear, and his skill in overcoming difficulties, he is controlled by the bad management, by the lack of skill, of the maker. Remembering now, that the vocal apparatus is perfect, is it not clear that it is bad management of it, or lack of skill, or method, which compels singers so to do when they sing out of tune? Take a flute, a Meyer flute if one pleases, one that is as nearly in tune with itself as any flute ever made. Does a correct ear insure playing this instrument in tune? Do not hundreds of flute players, whose sense of intonation is so acute that they will detect the slightest false pitch in the performances of others, play out of tune?

It may perhaps be said that our illustrations are not fairly chosen. We think they are; at any rate we intend them to be such, and to prevent all mistake in this matter we will select any instrument preferred. The result will be the same in every case.

Here we pause a moment to present a specimen of the unfairness with which this subject is sometimes discussed. "Select," says one, "an organ, or a

piano-forte which is in perfect tune; can a performer play out of tune?" Our reply is that the organ, or piano-forte has never yet been seen which was in perfect tune, and that the player, during his performance, has no control at all over the tune of either of these instruments. In tune, or out of tune, it is all the same to him, and he is obliged to surrender that point to the tuner. When we speak of the human vocal apparatus, or of instruments generally, we speak of those things which can be controlled by the performer during the time of his performance, and not of those defective instruments which, in this respect, are independent of the performer.

Some always sing too sharp; others always sing too flat, while others vary, singing sometimes too sharp and sometimes too flat, as it may happen.

Some years ago a prominent professor of vocal culture, at present a resident of Boston, delivered a discourse of nearly three hours length, in a neighboring city, upon the question,—"What is it that makes some voices sing too sharp, and others sing too flat?" We believe we give the precise words of the inquiry. Our professional brother floundered about in all directions for illustrations, from apple trees to members of the canine species, and at the end of nearly three hours he concluded his remarks by saying that when singers sung too sharp it was an incurable defect, but when they sung too flat the defect could be remedied. We heard this discourse, and remarked at the time, that any one could be taught to sing either sharp or flat, or to sing in tune so far as method is concerned.

We can by false method, teach any one to play an instrument, wind or stringed, out of tune in either direction. So with this vocal instrument, we can, by proper method teach singers to sing in tune, and only by a correct method can this be done. Where, then, is the trouble, which is the true method, and what is the correct technique, the proper use of which will enable singers to sing in tune? We answer, pure articulation, perfect location, and flexible strength. These are the means to be used to secure positively, the desired effect. Flexible power applied to all parts of the vocal apparatus is always demanded. Proper articulating processes, those referred to as forming language, will leave the body of the tongue free to give proper form to the cavity of the mouth, and the same part of the tongue will, if properly used, give a positive location to the cone of vocal vibrations, or tone. When this is done the singer will be sure of his result, if his ear is not itself defective. Some, we are aware, hear out of tune. That class of unfortunates are not under consideration, though even here the argument would hold good. The question is as to whether singers can be taught to produce those sounds which their sense of hearing tells them are desirable, and not at all as to whether the ear is correct as it regards pitch. We are thus particular in noticing this point, because we have known teachers who have really studied how they could distort everything in discussing the subject of voice development. If, then, the ear is correct, performers will by the use of a correct method be enabled to sing at all times

in tune; and if the ear is defective, the correct method will enable them to produce such sounds as they do perceive. They will not hear too sharp and sing too flat, or *vice versa*. Neither will those who have a correct ear and who adopt this method, hear in tune and sing out of tune.

These statements are not carelessly made. They are warranted by the practical demonstrations of hundreds of the writer's pupils during an experience of more than twenty years' teaching.

In a word, the tone must be perfectly located, then desirable results are obtained. Mislocate it, and one surely sings out of tune. Misuse an embouchure, or misplace a finger when stopping the string of an instrument, and the performance is surely out of tune. So with the vocal instrument. Locate the tone in front of its true position, and it will, in every instance, be too sharp; locating it back of its true focus will, in every instance, make it too flat. There are not, neither can there be any exceptions to these rules. We assert this without hesitation or qualification.

Another defect, more frequently heard, perhaps, among tenor singers, is that of a nasal tone. This tone is said to be sung through the nose. This form of expression is incorrect. The cause of this tone is an obstruction offered to that portion of the reflected vibrations which should pass freely through the nostrils. In the lecture in Music Hall, upon the Physiology of the human voice, before referred to, the lecturer noticed this defect we speak of, and he denied that preventing the free passage of air through the

nostrils was the cause of this nasal quality of tone. To convince his hearers that he was right, he, with a graceful curl of the little finger, raised his hand, pressed the nostrils between the thumb and fore-finger, and then emitted a short, quick sound, with considerable force. Finally, with a graceful bow and a winning smile, he said, "thus you see, ladies and gentlemen, that I'm correct."—"Where ignorance is bliss," &c., &c.

Does not every one know, that, when one has a cold in the head, the nostrils are said to be stopped up; and when they are thus stopped up, is not the tone of voice what is called nasal? On the other hand, when the cold disappears, and the nostrils are not stopped up, does not this nasal quality disappear? Take one of the prevailing climatic diseases among us, catarrh. Is not every one who is afflicted with this disease obliged, by the obstruction it offers to the lining membrane of the nose, to use this nasal quality of tone? Is not this catarrhal affection so prevalent among us, here in New England in particular, that foreigners and Southerners, by our consequent nasal tones, detect in which part of the country we reside, and call us Yankees? How is it where the bones of the nose become flattened, or crushed by accident; how is it, that, in all these cases, and a great many others, when there is an obstruction about the nostrils, the tones are nasal, and that this defective quality of tone does not appear when these obstructions are removed.

Many singers unknowingly form the habit of preventing reflected vibrations from passing through the nostrils, and to the extent that this is done, tones must be nasal in quality. Attention to the instructions here laid down, will remedy this defect with positive certainty and in every case.

Another defect is that of never properly delivering a tone. The articulation is lingered upon so long, in some cases, that the long dwelling upon the consonant seems really like affectation.

In other cases the tone hits, or clicks, against the throat, and below its true pitch. It rebounds from this position to some indefinite one, and the result is that the language is not understood, the intonation is false, the quality of the tone suffers, and the throat is in many cases seriously injured. The same means used to correct other defects will surely remedy this. Articulate the notes out, and do not attempt to squeeze them, indefinitely, through the mouth. Let the articulation of the language and the location of the tone be simultaneous.

The click just described, is caused by an interruption of those movements which produce sound. No defect is more general; none, perhaps, more injurious. Throats are debilitated by it, and it is impossible that it should be otherwise, as it is produced by a violation of those laws of movement necessary for the healthful development of the vocal apparatus.

Would it seem possible that educators in the department of voice should advocate the use of an exercise which is a direct violation of those laws? Yet,

such is the fact, and this click, their so-called "stroke of the glottis," is insisted upon as a desirable exercise for the development of voice. We pronounce it wholly incorrect and injurious.

Another serious defect, and one which has grown to be a most intolerable nuisance, is the *tremolo*. Properly speaking the tremolo is an ornament,—an embellishment, to be sparingly used with taste and sound judgment. One might infer, perhaps, from its habitual use, that it is the "one thing needful" for singers. Whatever the occasion, or whomsoever the author to be interpreted, the tremolo is the chosen weapon, the abuse of which injures both the singer and the author. Whether the performance is to be a brilliant cavatina or the simplest ballad, whether an adagio or an allegro movement, or any other, it matters not what the composition may be, nor whom the author, or what the circumstance, this tremolo is dragged in and abused, till the hearer is perfectly disgusted. Tastefully used, the tremolo is an agreeable ornament; but disgracefully abused as it is at the present day, it is an intolerable nuisance; a defect so injurious that its use should be almost entirely discarded.

We might extend these remarks indefinitely. We have alluded to some of the most prominent mistakes made in the use of the voice, and there for the present we leave this part of our subject. A correct method of vocalization, controlled and guided by good taste, will assist us in presenting such an interpretation of authors as is desirable, and that, also,

without injury to the performers. And it is to be hoped that all who feel an interest in these things, whether artists or amateurs, will exert themselves both in public and in private, to eradicate all defects. Pure articulation, positive location, flexible strength, all directed and controlled by an elevated taste, are the means needed to secure these desirable results.

CHAPTER XII.

Motion is, so to speak, the life of everything, or, in other words, life is motion. Should the rotation of our earth cease, even for a single moment, annihilation of its form would ensue. For many hundreds of years astronomers taught certain theories respecting the movements of our planetary system, which were at a later date proved to be incorrect. And we to-day accept theories upon this subject of Astronomy totally at variance with many taught by the ancients. In every department of science and art, constant changes take place in the minds of those who teach these things, and what is received as truth to-day is rejected to-morrow. Music either as a science or as an art, is not an exception to this law of progress. Indeed it is a well-known fact that our musical scale has existed in its present form only about three hundred and fifty years.

This law is in constant operation, and never ending change is an absolute necessity by which all things have their existence.

Appreciating, then, the force of this plain, self-evident fact, why should new ideas respecting the development of the human voice, be rejected, and their advocates be persecuted? Is it a crime, a wrong, an injustice to advocate newly discovered principles, which is to be received with opprobrious epithets?

We think not. The development of fresh thought is a result of the operations of this comprehensive law of progress, which nothing can prevent.

Our bodies are an aggregate of various organs, or parts, each part having the specific movement necessary to its healthful existence; and any variation in this movement produces an abnormal condition which we call disease. The more erratic, then, the movement, the more diseased the condition.

Does any one suppose for a single moment, that the vocal apparatus is not subject to this law? We take it for granted that no one will dispute the correctness of this view; indeed it is to us so perfectly self-evident that we cannot conceive this to be possible.

Let us apply this axiom to voices in concert, either as duo, trio, quartette, or chorus, but in a mechanical manner. Instead of considering the *diseased condition* induced by erratic movements, we will try to comprehend the *mechanical results* arising from those movements? for it is with these that we have more particularly to do. Selecting two voices, male or female, or one of each kind, we will assume that they are perfectly schooled in that false process which is

to us, at the present day, so apparent, or, in a word, we will allow that they are fashionable artists of the times. They commence their performances before the public, apparently as a duo; but what is the fact? Instead of being wholly engrossed in doing justice to their author and themselves, they are almost wholly occupied in exacting applause from their audience. The greatest amount of applause, whether in flowers, or otherwise, is the end and aim of their efforts, and not the singing of a duett at all. Whether the voices assimilate or not, whether they are in tune or not, whether there is a natural, flexible tone, or movement, or not, so long as they tremolo and hitch and click at the same time, it is all right, if to that is added sufficient applause from the audience.

We find no fault; we merely allude to this fact by way of illustration, and we ask is such a performance a duett? If one performer attacks a note too sharp while the other at the same time attacks another note too flat, will that produce a desirable result? If one delivers a note with a cloud of breath, a large portion of which is wasted, and the other at the same time, sings a note produced by an opposite movement of the parts, will that satisfy? If one "gets the right grip," (to use the expression of a resident teacher) and the other gets no definite grip at all; or if one articulates purely, and locates the tone properly, while the other does neither, will that make a duett?

These defects and many others, constantly appear in public performances as well as in private, and

among those, also, who rank as leading artists of the day. And until these erratic movements are corrected, we fearlessly take the ground that such a thing as a vocal duo, trio, quartette, or chorus, is an impossibility. It is useless to say that we do not fairly state facts in the instances above referred to. We do truthfully, and without exaggeration state just the facts, and speak of them only as defects which it is desirable to correct. That performers are not aware of these defects we admit. They would not knowingly design and give utterance to such crudities; but their lack of knowledge does not alter the result. Such performances are not duetts in any case. And so with three, or four, or as many hundreds of voices. They will never assimilate, never become harmonious, never produce a trio, or a quartette, or a chorus, until these erratic movements are done away with.

There are laws the operation of which controls the movements of both animate and inanimate bodies. Thus a number of clocks, in motion in the same room, and at the same time, will in a measure regulate themselves. A body of men will incline to regulate their movements in marching. And the tones of a body of singers will, in a similar manner, incline to assimilate; but it needs very much more than this to best develop the resources of singers. When they shall with pure articulation and flexible power, positively locate tones correctly; when their efforts shall be directed in a like proper manner to secure a desired result; then, and not till then, can such a thing

be heard as a proper duo, trio, quartette, or chorus of voices; and this is easily attained. It is not a difficult, lengthy labor, requiring a great expenditure of time and money. More than this, these results have all been accomplished; and they can be made, by judicious training, the rule instead of the exception.

Views like these will arouse, perhaps, the sensibilities of those who read them; and we hope that they will do so. It has been said that "the agitation of thought is the beginning of wisdom." The sooner, then, we begin to grow wise in this matter, the better.

Said a lady professor of voice culture, to a pupil of ours, who had also been under her instruction, "What! have I taught voice culture for thirty years, and lived in ignorance of the true method all that time?"

It is more than likely, my friend, that such may be the fact. You, in common with us all, are a human being; and, as such, your life experiences will resemble those of others. So, if abler persons have lived longer in error, it is quite possible that both you and I may have done the same. The page of history is open to us all, and we can all profit by its perusal. When, therefore, a new truth is presented you, please do not, at its inception, fly into a passion, and subject yourself to the awkward necessity of making apologies. So far as that truth appeals to your reason, accept it as such, reserving to yourself the right to advocate it, or not, as may be professionally and pecuniarily convenient.

Among large bodies of singers, all the defects we have referred to exist, and it is desirable that they be remedied. Erratic movements are the indisputable cause. Is it not best that those incorrect movements be done away with and correct ones substituted?

Something more than a good musician is needed here. A man may be an artistic flutist; he may read a musical score well, and have an accurate knowledge of tempos; he may even possess the ability, which some do not, of composing a good score; fortunate circumstances and friends may unite to bolster him up and keep him in position; he may possess all these and many other requisites, and then utterly fail as a director of voices. If he is ignorant of those movements needed to secure the best results, he cannot, of course, teach them; and if choruses, or smaller bodies of voices, are not properly taught, they cannot develop the happiest effects. All the talent in the world will not save either the director or his singers, and their performances must inevitably be crude and erratic. Distasteful as is the acknowledgment of this fact, it is something which is to be fairly met upon the merits of the case. Exalted positions, great reputations, great abilities in other directions, all these united will not do away with the present exigency. They may retard, as they do to-day, the solution of this problem, and keep back better results for a time; but in our opinion, it will be only for a very short time. The public demand is for the nearest possible approach to perfection in all things, and where there is a demand there surely will be found an adequate supply.

These are not questions of individual convenience, of individual success, as it regards either position, reputation, or money. They are public necessities which must be met in due season; and it becomes all directors, all teachers, all who are interested in human progress, to give heed to these demands. Progression is the necessity, and properly directed movements are the means of successfully responding to this necessity.

We have called attention especially to those movements which *produce* tones rather than to tones themselves. Correct movements will produce desirable tones; erratic movements cannot accomplish this. And this places the subject of voice building, we conceive, upon its legitimate basis. Perfect the mechanics, the movements which produce tone, and all that can be desired in relation to the mechanical formation of the human voice is surely attained. The importance of studying movements has been appreciated in many departments. In science and in art this subject has received much attention. Much improvement has been made; still more is demanded. Our progress should, and it probably does, stimulate us to increased, continuous effort. During the present century, the great Ling has developed and taught us his movement cure. Commencing in Sweden, thus taking from their author and his country, the name of Ling's Swedish Movements, they are faithfully performing their mission in preventing and curing disease. In Germany, Russia, France, England, and in America, Ling's Swedish Movements are to-

day successfully combating diseased conditions, and the public mind has become so much engrossed in their favor, that they are, in a manner, taught in our public schools.

In music there is not, to our knowledge, an instrument which has not been treated more or less successfully in the department of mechanics. The laws which control those movements which produce tones, have been, so far as may be, systematized, thus receiving especial attention. Take the piano-forte by way of illustration. What able minds have been interested, what years of laborious study have been spent in perfecting the technique of this instrument. Carlyle Petersilea, the great representative interpreter of all classic authors, acknowledged thus in Europe and in this country, has directed some of his best efforts to a practical demonstration of such movements as are required to properly form and develop the hands for piano-forte performance; and the method he employs stands to-day, as it has for years, as a model of perfection. His exercises oblige such movements of the fingers, wrist and arm, as are needed for the healthful development of those parts, and practical results conclusively prove the value of those movements.

Theodore Thomas's Orchestra is another model of excellence which teaches us the imperative necessity of studying those movements which produce tones. We do not mean the mere drawing or pushing of violin bows simultaneously. We refer to that perfectly finished, delicate touch which permeates all his

stringed instruments; we mean the similar use of the embouchure, and attack and use of the tongue among all his wind instruments; we mean that perfect attention to all the movements (even to the ricochet blow upon the drums and cymbals, instead of a direct one) which, combined, produce such satisfactory results. The verdict of the public, generally, was in favor of the delicate finish of this orchestra's piano passages. We, however, while admitting all the excellencies of their perfect performances, could not resist the homage due to one who could so direct the movements of a grand orchestra, that they should every one deliver all the *power* which his instrument would permit, *without once allowing the tone to degenerate in purity*. When performers who possess the requisite ability, are using extraordinary care, it is to be expected that they will succeed in their efforts in piano passages; but when they are roused to unusual exertion, when the crisis comes, and the climax of the author's idea is to be represented by a fortissimo, they are liable to fail in this perfection of finish. Such was not the case with Thomas's Orchestra. In every instance, and under all circumstances, they showed their great ability by responding to the movements of their great director.

We might multiply instances without limit, were it necessary, all proving the correctness of the views we are advocating, and we assert that a moderate daily use of properly directed movements will do more to develop, healthfully and rapidly, the human voice than any amount of labor bestowed upon those

fashionable, ill-directed efforts which are misnamed cultivation of the voice. The object should be the attainment of the greatest amount of physical strength and endurance, in the shortest period of time, by the expenditure of the least amount of labor. All this is successfully accomplished, to-day, in many directions.

Let us refer to the immense benefits conferred upon the public by Dr. Windship with his yoke lifting and its accessories, doubling the strength in three months. He is, and has been for years, practically demonstrating what we have just asserted. The only difference is, that, while we limit ourselves to the department of voice, he takes in the organization as a whole. His judicious application of his method will not permit an excessive, ill-directed use of his exercises. Flexible strength, carefully applied, and for a very short time only, at each period of practice, accomplishes all this; and we greet him as an exponent of those simple laws, the correct application of which produces such beneficial results upon the physical organization.

If, then, we desire success in the department of voice building, we must study those movements which produce tone. These being perfectly under control, the tones must in all cases prove satisfactory.

CHAPTER XIII.

We now propose reviewing the popular, generally received ideas upon the development of the voice; meaning by the term development, both increase in power, or quantity of tone, and the extension of compass.

In attempting to develop anything whatsoever, we must possess means adequate to that end. So with this vocal apparatus; if its resources are to receive their most perfect development, we must possess the requisites needed for that development.

Fifty years since, nearly all writers upon voice used the same general method. They commenced their works with a scale extending from C below the treble staff to at least G above it (and in many cases to C above this staff) and every note was to be sung *embellished* with both the crescendo and diminuendo. There was a constant, steady, persevering study required of pupils, which directed their efforts in this manner, and such is the fact in very many instances to-day. Indeed, there seems to be, and to have been, but this one view possible with many, and they really believe that power and compass of voice are to be attained only by this absurd process. If power is desired, pupils are required to bawl with all possible strength, no matter how ill-directed their efforts may be, till in some cases the sounds produced much more resemble "roaring tigers" than anything human. If the upper notes are to be attained, pupils are taught

to screech and strain at them till their voices are quite worthless. Power indefinitely applied is the prevailing error, and it has been the destruction of voices without number.

Our intuitions lead us, without doubt, to make the needful effort when we wish to produce a loud tone. But proper knowledge, correctly applied, is requisite for a healthful success. Intuition prompts us to apply spasmodic contraction and great strength, perhaps, when we wish to produce high notes. Correct method will teach us that such an erratic course cannot but result in destroying voices.

We have remarked, that, if we have a tone from this human vocal apparatus, it must be produced by the action of a volume of air upon a muscular fibre. The acoustic law operating here is that the greater the tension the more rapid are the vibrations, and the higher is the pitch of the sound. The less the tension, the slower are the vibrations and the lower is the pitch of the sound. There is, however, another truth contained in this premise which is to be constantly borne in mind, in developing power and compass in the human voice. It is this. The more rapid the vibrations are, the less space they move through, or the shorter they are; and the slower the vibrations are, the greater the space they move through, or the longer they are. In other words, a high note needs less space to vibrate in than a low one.

A violin string will present this clearly to the eye. Thus, the open string will show a clear space between its vibrations; stopping, or shortening the string

lessens this space till it disappears from the sight entirely.

These facts are not to be lost sight of while discussing this development of the power and compass of the human voice.

We will now consider human muscle from another point of view. Muscles possess the power of retaining habits taught them; and they possess this to an extent little realized, we think, by many who teach voice culture. To illustrate this principle let us select some object which possesses some little weight, and one which will place the hand in an unusual position while holding it; a brick for instance. After retaining that brick for a short time, put it down again, and the hand will retain that shape for some little time. So with every class of muscles in our bodies. The lips or embouchure, the fingers and the arms in manipulating musical instruments and the implements of labor, all partake of, or retain, in a measure, the habits, forms or movements given them. Were it not for this, the ordinary occupations of life would be impossible.

The vocal apparatus can be no exception to this law. The upper notes of the voice require greater tension of the parts in order to produce the requisite number of vibrations. Is it not perfectly plain, that, if we retain muscles in that tense condition, they will acquire that contracted habit, and a short movement? Are they not amenable to those laws which control them? That habit once acquired, what is the consequence? Ill-directed effort and imperfect location

produces a thin, rough, stiff, unsympathetic quality of tone, which soon degenerates still farther, and the tone becomes dry and badly out of tune. Then a greater effort is made by the application of more ill-directed power, to satisfy the sense of hearing and force the parts to yield such a tone as the ear demands. This only makes a bad matter worse, till, at last, voices are ruined. This is no exaggerated view of this matter; it is of daily occurrence here in our midst. This contracted habit is unfavorable for the development of the lower notes, and those rapid, short movements will not produce them at all.

Is it not perfectly plain, then, that if we wish to healthfully develop those upper notes, it cannot be accomplished by any process so destitute of method? Let it be understood that we refer to that excess of ill-directed power which is used in forcing voices in an ascending relation, and which is taught to-day as being the correct method.

Distasteful as it must be for many to realize these truths, the exigency of the case demands that they should do so, and, that, if they wish to succeed in healthfully developing the resources of the vocal apparatus they may apply a more correct method.

In aiming to produce the upper tones, it is natural to make undue exertion for the purpose. But we emphatically repeat that true success can be attained only by *properly directed* effort. Neither spasmodic contraction nor ill-directed power will ever succeed, and the more such effort we make, the more effectually shall we prevent the desired result. Furthermore,

voices must, without exception, by perseverance in this irrational course, become worthless.

We have no modesty about this matter, not a particle. And we take the position without fear or favor, and assert without equivocation that this lack of method to which we are now calling attention is a prevailing defect generally advocated by teachers throughout the world.

How shall this be remedied?

Our method is to reverse, entirely, this order of proceeding, and in the following manner:—

Select a note in the middle of the voice, locate it perfectly, using only a moderate quantity of tone steadily sustained, and then descend. We repeat it, *descend* the scale with long, evenly sustained notes. This process gives, with each successive new tone, a longer vibration which is the product of a more flexible muscle; and this it is which infuses flexible, lasting power into those muscles; and when once attained it can be healthfully applied for the development of the desired upper notes, and not till then.

This, we are aware, seems anomalous, and we do not wonder at the surprise such a view of this subject creates. It utterly contradicts popular theories in this direction. It reverses the record and discards universally received opinions. All this it does and very much more. But that cannot influence us in this discussion. Truth, and that alone, regardless of consequences, is what is needed, and that is the demand of the public. We repeat, then, our assertion. If the upper notes in the human voice are desired, they

can only be successfully atttained by infusing flexible, lasting power into those muscles used in their production; and this can best be done by sustaining, with a moderate degree of strength, long notes in a descending relation. When once those muscles are properly educated, they will respond, readily, to every well-directed effort, and a powerful, flexible, pure, even scale will be in every case the result.

Let us farther illustrate. Take a violin, or any one of that class of instruments which, for their best development require, so to speak, a habit of vibration. All these instruments require such movements as will shake out the resinous substances, and give the wooden fibres a free, flexible, sensitive vibration. Please bear in mind that we speak of such instruments as are as nearly perfect in their structure as is possible. Now, we ask, how are these movements best communicated to these instruments? Would any one be so foolish as to commence with the upper notes? Would he put the upper part of the E string in motion to accomplish their development? This bears nonsense upon the face of it. These instruments all develop from the lower notes upward, and it is the application of flexible power in developing longer movements, through the use of those lower strings, which gives the instruments, in the shortest space of time, their needed habit of vibration. By this method the lower tones first develop, and as they do so, the upper notes appear.

Does any one dispute this? If so, let them make the experiment as has been done in hundreds and

thousands of instances, and from that experiment learn that voices, like all things else, best develop by the application of flexible strength properly directed.

From the lower to the higher is nature's law. Trees develop from their roots, and grow from the inside to the outer, not from the bark inward.

If, then, singers wish to secure perfect development of the upper tones, let them educate the vocal apparatus properly, securing a healthy, flexible control of the lower part of the voice first. Then, when they shall have developed, by this method, power desirable in quality and quantity, let them properly direct that power in attaining the upper tones, and success is insured.

CHAPTER XIV.

In reviewing what we have said, it will be seen that the term register is, to say the least, one which does not clearly give the idea which it was intended to convey. What that idea is, still remains a subject of discussion.

We have referred to one construction of the meaning of the term, viz.—that it was used to represent a certain number of tones, more or less. Thus, about the lower third of the scale was the part of the voice meant when the term chest register was used. By the middle register was meant the middle third of the

voice; and the upper third of the voice was known as the head register. It was the received and advocated opinion of many, and it is still a prevalent belief, that this division of the voice, or vocal scale, into three parts designated by the terms chest, middle, and head, was the idea to be conveyed by the term register. We have proved conclusively, we think, that this view is incorrect; that it is an acoustic impossibility.

At the present day it is the more generally received opinion, that by the term register is meant some characteristic quality or shading of tone. According to this view, instead of pitch, or a particular portion of the voice being indicated by the terms chest, middle, and head register, these terms designated a particular quality of tone. If this is the correct meaning of the term register, it is perfectly certain that the views of those who advocate it are contradictory. They do not agree at all as to the number of registers, nor as to their use. And, moreover, if quality of tone is what is meant by this term, then every quality or shading of tone of which the emotional nature is capable, is a register; and the number of registers in the human voice never has been, neither can it ever be, truly stated.

We have shown the inconsistency of these views, and have proved also, that when those processes which give us sounds, and which form language, are properly directed and developed, there can be no such thing as register in the ordinary acceptance of that term.

We now invite attention to another view of this subject; one that is received as truth, and which is conscientiously advocated as such by many whose opinions are quite as much entitled to respectful consideration as those of greater pretensions.

And here let us remark that we are seriously discussing an important question. Whatever opinions may be presented, those who entertain them are equally interested in the correctness of their views, and the sole object is, as it should be, the elucidation of truth. We utterly disclaim all personality, and emphatically repeat that it is principles, or opinions, and not individuals, with which we have to do.

When the lower tones in the scale of the human voice are produced, a vibration, or motion, is felt by placing the hand upon the chest. When the upper tones of this scale are sung, a vibration, or motion, is felt by placing the hand upon the top of the head. It is here worthy of especial remark that where to place the hand when the middle tones are sung is never stated. That, however, does not alter the result.

Now, does it seem possible that educated, refined, sensible persons should seriously entertain and advocate the idea that when the chest vibrates in singing lower tones, and when the head likewise responds in singing upper tones, the tones are made in one case in the chest, and in the other in the head? Absurd as it may seem, it is, nevertheless, true. It is useless to deny it, and tell us, as many have, that we misstate the case. We do not mis-state anything; and we are

more than merely careful when we state the opinions named.

Many have argued this question with us in this manner. "There," they would say, "I place my hand upon my head, thus, and now I sing a high note; the head moves, I can feel it move; of course, then, the tone is produced in the head, and that is why it is called a head tone." And they speak in the same manner of chest tones. Said an educated lady singer to an artist friend of ours, "I place my hand upon the lower part of my chest, when I produce the lower tones of my voice, and as I ascend the scale, I can feel their movements and trace their rise. They are made in the chest, and for that reason we call them chest tones.

It seems almost unnecessary to pay any attention to such evident absurdities. But coming as they do, from educated parties who honestly entertain these opinions, we give them, in common with others, respectful consideration.

Tone from the vocal apparatus is produced by the action of air upon muscular fibre. That muscular fibre is attached, or fastened, to the inside of the larynx, and forms a part of that organ. Without these muscles or vocal chords, we can have no tone at all. All the movements of the chest, or of the head, can never give us tones. Neither can we by any possible means get the larynx, which contains the parts whose movements do give us tone, into either the chest or the head. If, then, neither the chest nor the head can give us tones, and if we cannot get that part

which does give us tones into either one of them, what propriety is there in saying that a tone is produced in those parts; that we can feel them move, and that they are, consequently, called head or chest tones? There is not a particle of truth in such a view. It is a mistake which is to be rectified.

An illustration will serve, we think, to place this subject in its correct light.

Take an ordinary music box and put its machinery into operation. We have tones of a certain amount of power. Place this music box upon a wooden table, and the sound is magnified, or it sounds much louder. Then place it upon a stuffed chair or lounge; the sound is at once deadened, or almost wholly lost. Did the table in one case, and the lounge in the other, produce the tone, or did they merely reflect that which was made by the music box?

The answer is perfectly plain. The table is a good medium for the reflection of sound, while the lounge is not. The box which really produced the tones remained the same in both cases. Here, then, is the solution of this question.

When the upper tones of the human voice are produced, there is greater tension of the parts which produce them, and the head reflects such vibrations. When the lower tones are produced, there is less tension of those parts, and the chest reflects them. The head cannot so readily reflect slow vibrations, or low tones, neither can the chest so readily reflect rapid vibrations, or high tones. The parts, however, which produce both high and low tones, remain fixed

in their position, and from that position they can never change. And it is also true that both high and low tones have one and the same position, or focus of vibration.

In our opinion, then, the term register should be dispensed with, and the mistakes induced by its use should be corrected. It gives incorrect ideas respecting the movements and use of the vocal apparatus, and presents this subject from a wrong stand-point. Starting wrong, and with faulty premises, it must inevitably lead to wrong conclusions. And we earnestly hope that such a method as shall plant itself upon known laws which prove themselves to be practically correct, and which shall thus prove successful in best developing the resources of the human voice, may at once be substituted for all those which are based upon register of any kind.

Our readers will observe an entire absence of anatomical diagrams in this work. It is an intentional omission. As we have before repeatedly stated, we are writing upon voice building, or the mechanical formation of the human voice, and have excluded all subjects not necessary to such a treatise.

To use the recent words of the celebrated Garcia (although in his early writings he distinctly advocates the necessity of a knowledge of anatomy) to a professional brother now resident in Boston, when speaking of anatomical plates of the vocal apparatus, "Humbug! Humbug!! Humbug!!!"

Leaving, then, anatomy and physiology to fulfil their mission in their proper sphere, we present for consideration, our Method of Voice Building.

VOICE BUILDING.

A

NEW AND CORRECT THEORY

FOR THE

MECHANICAL FORMATION

OF THE

HUMAN VOICE.

BY

DR. H. R. STREETER.

BOSTON.
WHITE & GOULLAUD, 86 Tremont Street.
1871.

PREFACE.

At the earnest solicitation of friends, the closing half of the work here laid before the public, was prepared and copyrighted by the author, several years ago. Meanwhile, in the delay of its publication, new demands for a more detailed and explicit presentation of its ground, have given rise to the prefatory pages forming the first half of the work.

The term, *voice-building*, although chosen at the outset for the title of the book, and the system which it represents, has been since employed in public by other parties, in questionable ways that may be briefly enumerated. One case is that of a former pupil, who naturally claimed its use as the heading of a professional advertisement. But this individual, while gladly employing the facilities which this system affords to the practical work of teaching, felt it binding, from motives of policy, to ignore its authorship,—which was then obscure in this vicinity,—and to give prestige to the advertisement by reference to a professional celebrity of New York, whose more popular theory might swell the chances of patronage.

The other case finds the term introduced, utterly devoid of sanction, into the pages of a manual published under the auspices of a musical institution of this city, now holding triumphant sway, in the full tide of educational popularity.

Aside from the slight injustice generally appertaining to such unauthorized appropriation, these cases, to the author, wear quite a facetious aspect; for both the famous New York professor, and the triumphant Boston institution, under the light of a true philosophic scrutiny, are mainly engaged rather in the demolition than the successful uprearing of the human vocal structure.

And the last clause holds respecting any and all such institutions, in this or any other country, up to the present time. To those who start or smile at the boldness of this assertion, it can only be said, that an honest perusal and test of these forthcoming propositions, and their practical illustration, will show, to an utter certainty, that they contain all the proof possible to any human process.

NO. 2.

For unbounded and unadulterated egotism this clause beats them all. C. E. D.

CHAPTER I.

TEXTURE OR QUALITY OF TONE.

In presenting our views upon this subject to the public, we mean, if possible, to discard all extraneous matter, and to persuade all interested to reason for themselves.

The prestige of great names is not enough for students. The "knowing ones" differ in their views in regard to the formation of the human voice; and as they cannot all be correct, we must adopt some one writer's views, or else arrange such a theory as will, in our judgment, prove itself to be practically correct.

We need not pause at present, to criticise individual authors. All conversant with the formation of the human voice, will admit that authors differ in their views.

It will be borne in mind that our purpose is not to write elaborate compositions with which to exhibit the beauties of well formed voices. On the contrary, our work is mechanical. We propose to introduce a correct method of forming voices. After the voice is formed, or when we shall have become proficient in such exercises as are necesaary to shape and develop it, we shall find in endless variety, artistic compositions which afford abundant scope for all.

Author was not a singer -

Let us then select a single sound for experiment; premising that in all cases, only the ordinary, natural use of the organs which produce the sound be permitted. The object is to experiment upon the texture or quality of tone, and not to sing or read particularly loud or well; therefore no especial effort must be made to produce a *loud* sound. On the contrary, only the ordinary quantity of tone used in speaking is required in these first exercises.

To avoid all affectation or unnecessary control of the sound, we will select one which is of medium pitch, and try the effect of different elements of language. Thus, in the following exercise, we have *five notes* upon each of five degrees of the staff.

The first note we will call Do. In pronouncing it, *all care must be taken to allow the most natural and flexible use of the features.* Let the perfect articulation of the syllable produce such a quality of tone as it will, and note the effect. We shall find that we have a large, round, open sound, which is peculiar to the articulation of this vowel.

Again, at the same pitch, let us use the syllable Re, taking the greatest care to preserve the natural use of the organs. This sound differs materially from the first. It is more compact in texture, but rough and thinner; and these are qualities characteristic of this vowel.

The author constructs a voice as I might construct a common — nothing easier — just a hole and round iron around it.

With the same pitch let us take a third syllable, and call the sound Mi, the same care being taken to preserve the natural use of the organs. This vowel gives a thin, indefinite sound, differing from both of the others.

A fourth syllable, Fa, produced in the same careful manner, will give us a large, sonorous, well-defined sound, which not only differs from all the previous ones, but is more satisfactory for practical purposes.

We have said that in uttering or sustaining a sound, using the vowel O, as in the syllable Do, "*we have a large, round, open sound which is peculiar to the articulation of this vowel.*"

The vocal chords are put in motion, when at a certain degree of tension, by air passing through the larynx. These vibrations, in passing out of the pharynx between the teeth and the lips, partake of the form of the mouth.

For example, if we pass a current of air through a *round tube* it will be a *round current* of air. If the same current of air is passed through an *oval tube* it will be an *oval current* of air. Using care, then, not to interfere with the action of the throat, allowing the lips to project freely, and the teeth to separate naturally, we shall, in sustaining a sound with the vowel O, be sensible of the effect above named. A portion of the lips contract, while the outer portions project from the teeth. This interrupts the volume of air which is used; indeed, most persons who make the experiment can feel the action of the air upon the inner portions of the lips.

The articulation of the syllable Re, gives another position of the mouth. The lips do not project as much as when producing the vowel O. The teeth are nearer together, and the tongue is pressed forward a little, so that the vibrations pass through an entirely different aperture. As a matter of course, then, we must produce a different substance, or quality of tone; one which is, in this case, rougher and thinner, and one, also, which lacks the roundness of the sound produced by sustaining the vowel O.

In articulating the vowel E, as in the third syllable Mi, we have a change in the quality of tone which is apparent to all. The teeth are brought still more nearly together; the tongue advances still nearer the teeth, so much so that the tone receives little or no assistance from the nostrils. The lips, also, close still more upon the teeth. The sound passes through an aperture differing from both of the others, and we thus have a thin, wiry, indefinite sound, which, while it differs in substance from both of those produced by articulating O and A, is more unsatisfactory for practical purposes. This tone has the least room of any, and one is plainly sensible of the obstruction presented to the free emission of air; the vibrations being felt in the front of the mouth, just above the front teeth.

The articulation of the fourth syllable, Fa, in this connection, (that is after using the syllable Mi) presents us with a greater change in the position of the mouth.

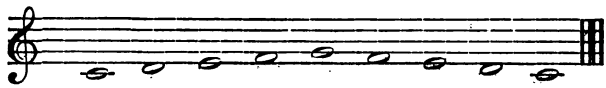
The teeth separate widely, the pharynx enlarges, and the sound has its greatest capacity. A corres-

ponding change in the substance of the tone is at once noticeable, and we have a large, compact, sonorous tone, which is more satisfactory than either of the others.

One peculiarity is here presented. It is this: that in separating the teeth, every person is inclined to *press the tongue back upon the throat*. This should never be permitted. The tongue should be kept in its place easily and comfortably, and in this manner strengthen, but not obstruct the sounding processes.

The fifth syllable, Sol, presents nothing new. It is used only to preserve the "five note form," which will be much employed in this work.

Suppose, now, we take a series of five notes, thus:



and, using the syllable Do for every note, sustain the sound upon each long enough to criticise it fairly, we shall find that the texture or quality of every sound is the same. So with Re, Mi, and Fa; each gives us the characteristics of the particular syllable used; and these characteristics are consequent upon the several positions in which the organs are placed when producing the syllables.

The pitch of the sound in these exercises makes no difference. Each element of language presents us with a quality of tone which is dependent upon the position in which the organs are placed in producing that element. And if we select any vowel, and

use it in producing a series of sounds, we shall find in all a quality of tone characteristic of the particular vowel used.

Quality of tone, then, is independent of pitch; it depends upon the position in which organs are placed that receive sounds, or tones, after they are produced, and not at all upon the amount of tension given those parts which vibrate in sounding.

CHAPTER II.

ARTICULATION OF LANGUAGE.

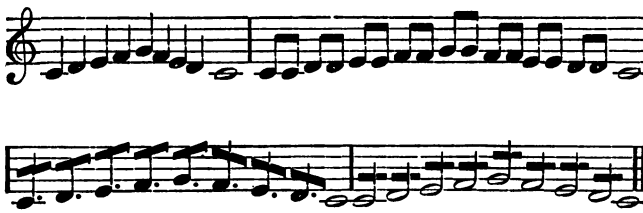
Our whole existence is a duality, and this duality is maintained in the formation and use of voices. The organization of a human being presents this. Every one possesses two brains, two eyes, two ears, two nostrils, and two lips. The limbs, lungs, heart and stomach are dual, and the circulation of the blood and nervous fluid is similar.

Again, we are never conscious of a single truth. *We cannot be.* A knowledge of light is comparative with that of darkness; knowledge of heat is associated with that of cold; distance in space is comparative, and this we express by the terms far and near. A human voice presents this duality in the classification, functions and use of different organs.

One class forms language, and their shape, location, and connection are such that they can produce no sound.

The lips, teeth, and the tip of the tongue are the organs used in forming language, and this is their especial office. How often one goes through every motion necessary to the formation of language, without emitting any sound! And how easy it is to produce vocal sounds without the slightest use of the lips, tip of the tongue, or teeth!

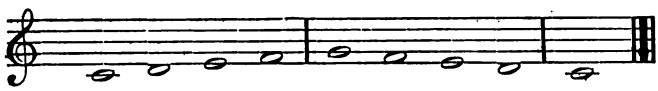
We have said that one class of organs forms language only. The function of this class of organs is distinct, and should never be interfered with. To prove this, let us take a series of five short sounds, thus:



and calling each sound La, ascend and descend; then let us give each sound two articulations, then three, and then four. Calling each sound La, we shall find that the tip of the tongue is in constant motion; at the same time the sound is not disturbed at all.

This organ, then, which assists in the formation of language, is distinct in its use; and it does not, in the least, interfere with sounds.

A chanting of poetry, using a line (or even a stanza) to each sound, will further illustrate this, thus:



Taking a stanza of poetry, of four lines, and reading or chanting the first line (or the whole stanza) to the first tone, the second line to a different tone, and so using a different sound for each line (or stanza) we ascend and descend this series of sounds.

It will be plain that while the throat and its appendages are left to perform their functions, and while the closest attention is paid only to the most perfect, free articulation of the language, the use of those organs which form language will not impair or interfere with the sound.

We often, as we have remarked, make every motion necessary to form language, without uttering a sound. Again, in using the syllable La, in the above exercise, the tip of the tongue has the greatest movement used in any form of language. The lips and teeth render some slight assistance, at the same time a continuous sound is heard which is not at all interrupted by the articulations of this syllable. The lips need not, and the teeth cannot interfere with sound.

The use, then, of these organs which form language, is a distinct process which we must constantly bear in mind.

CHAPTER III.

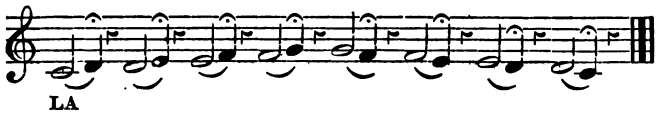
ARTICULATION OR VOCALIZATION OF SOUND.

If we have a sound at all from this human vocal organization, something moves. Let the shape, location, and connection of that something be what it may, if we sound with this vocal apparatus, *something moves.* That something is a muscular fibre, and the motive power acting upon it is air. To convey our idea, when we wish to refer to this part which vibrates in vocalizing we must have a name, and it makes no difference what term is used provided we understand by that term that reference is made to that vibratory part. The term in general use is vocal chords. Their existence is denied by some anatomists, but this makes no difference. A muscular fibre acted upon by a volume of air gives us sound from the vocal apparatus. These parts can give us no articulated language; their movements produce sounds only, and these movements are entirely distinct from, and independent of those which form language.

Let us produce a sound, and while it is in existence and fairly under control, let us change the pitch to one a degree higher. This change, or vocalization, is produced without assistance from the tip of the tongue, lips, or teeth. It requires no increase in

the volume of air; a slight increase in the tension of the muscular, or vocal chords, being all that is required to change the pitch of the sound.

A series of "five notes" will illustrate this, thus:



Using the syllable La, we produce the first sound, and while it is fairly under control, we change at once, by a gliding movement, to the next; then make a full stop. The syllable is articulated in producing the first only of the two sounds; the change from one sound to the other being produced by tension of the muscles, and not by the articulation of language. Repeating the second sound, we sustain it till we are ready to change to the third; again make a full stop, and repeat the third sound, changing to the fourth; repeat the fourth sound and change to the fifth. Descend also in a similar manner. The change will be perceptible the moment it is made; the tension, or vocalization, being produced without the slightest assistance from any organ which forms language.

Our proposition then is that those organs which produce sound are distinct in their use from those which form language. Their tension can be increased or diminished, and they will consequently vibrate with greater or less rapidity; we can, also, apply greater or less quantities of motive power, or air, but these movements are not sufficient for the forma-

tion of articulate language. They belong exclusively to sounding processes, and must be carefully studied as such.

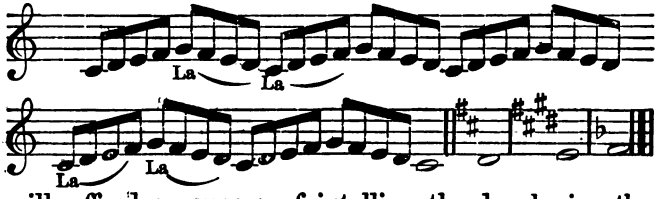
A muscular fibre, then, (vocal chords) acted upon by a volume of air as a motive power, *produces sound* from this vocal apparatus; and that entirely independent of speaking processes. The tip of the tongue and the lips, assisted by the teeth, *form language* independent of sounding processes.

Each class of organs must be so educated that they will perform their functional duties without interrupting each other. Every movement of speaking must be made freely, and without extraneous sound; each movement of sounding must be flexible, and uninterrupted by any attempt to form language; the simultaneous movement of all parts being the desired result to be perfected by our future exercises.

CHAPTER IV.

DEVELOPMENT.

A "five note" exercise like the following, thus:



will afford us means of intelligently developing the

movements of both classes of organs. In ascending or descending, when the tie, or slur, (⁀) is not written, use the syllables Do, Re, Mi, Fa, Sol. Where the tie (⁀) is written, use the syllable La, and connect each group of four notes. Only the ordinary speaking quantity of tone is needed, and the pitch of the exercise can be varied a tone or two higher or lower as the individual case may require.

Simple as this exercise seems, upon its face, it is one which requires much more than ordinary care in its execution; for there are several defects to which all are liable, almost without exception, needing especial effort in eradication.

In the great majority of instances there is a defective production of the first syllable Do, both in articulating and sounding. In articulating the consonant D, so to speak, the tip of the tongue is pressed against the front, upper part of the mouth. This pressure is reflected upon the sounding processes so that a hasty, extraneous sound is heard before the articulating movement is completed. This is a general defect with speakers and singers. It is a direct violation of our fundamental law, which forbids the organs of speech to interrupt the movements of those organs which produce sound, and should never be tolerated. The movements of speaking and sounding should be simultaneous in all cases.

Another defect, usually associated with the above is, that the sound first heard is not at all on the pitch of the one sustained. The attack is made several degrees lower in pitch than the tone intended, and a

rapid click accompanies as rapid a slide to the pitch sustained.

Both of these are serious defects which are to be studiously avoided, and the greatest care is to be used to see that every movement is freely and flexibly made.

Another defective movement requires critical attention before we can hope to healthfully develop our vocal organization. It is an uneven, incorrect respiration. Thus, many who attempt this five-note form, as above written, will first produce eight sounds; the next inspiration, being imperfectly performed, gives them perhaps four tones only, or twelve, or some indefinite number of sounds.

This is the idea to keep prominent: that, if the capacity of lungs is such as to give us any definite number of tones, these lungs will, if properly filled with air, give us an equal number of tones. In other words, if the capacity of lungs is sufficient to give us twelve, or twenty notes, they will give us an equal number of tones just as often as they are properly supplied with air.

And here another most important defect presents itself. It is in the manner of inspiring, or filling the lungs with air. In a majority of instances it is hastily and imperfectly performed, and the supply of air is deficient.

When the supply of air in the lungs is exhausted, make a full stop before attempting to proceed. Acquire a condition of perfect ease, and then fill the

lungs fully, but without spasmodic effort, before attempting their continued use.

In this way we shall healthfully develop all the organs of respiration, and all the movements of breathing, sounding, and articulating can be made simultaneous. When this is accomplished let the effort be made to produce as many notes as can be comfortably given, *and no more*. The number of articulations produced at an inspiration can be gradually increased till we can develop the whole of the above exercise with a single breath. When this is attained, or when we have, at least, equalized respiration, and perfected the movements of speech and sound, we can change the pitch of the exercise a tone higher, and thus secure new conditions for development.

Again change the pitch another tone higher, and in this manner establish different degrees of tension.

As a general rule the pitch from C, D, E, and F, as One of the scale, will be sufficient for present use, and even less than this compass may be better in some cases. Too much care and attention can hardly be bestowed upon the perfecting of this five-note exercise, and we especially commend the old saying that "haste is not speed" to the careful consideration of all who study voice building.

One other defect is to be carefully noticed and perfectly remedied before we can profitably attempt other exercises. It is this: that, in passing from one sound to another, when using the slur, or tie, the sounding processes are interrupted, so that a click or break in the continuous volume of sound is heard.

This does not occur at any especial pitch, or even in the same place at all times with the same voice. It is simply an erratic movement which all are liable to make, and it occurs only when the slur, or tie, is used. When articulating language and sounding at the same time, it is never heard. It is caused by a slight interruption of the sounding processes just at the moment tension is applied in changing the pitch.

It should not be tolerated at all. No matter how much we may increase or diminish the tension of those parts which sound, they should present us with a continuous, unbroken volume of sound, both ascending and descending.

Every point referred to in this chapter should receive the most careful attention before we proceed.

CHAPTER V.

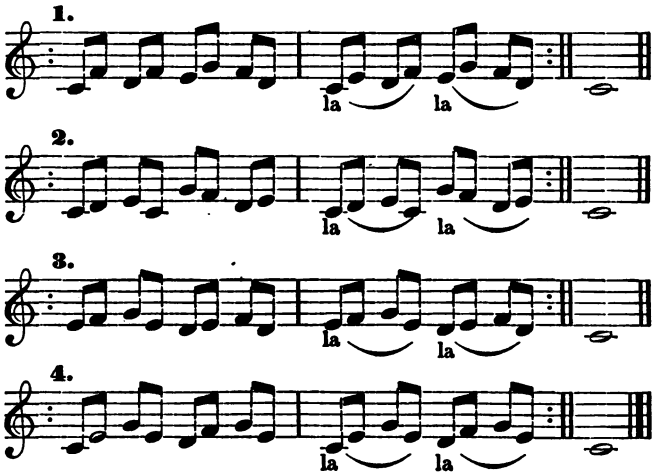
SUBJECT OF PREVIOUS CHAPTER CONTINUED.

We now present various five-note forms of exercises which will serve as models for similar studies. In our opinion they are invaluable aids in developing those movements to which we have attended. They are simple in structure, varied in form, and pleasing to the ear; and, as we have said, will tend to impart correct movements.

One great reason for introducing them is, that they entirely remove all tendency to mannerism, or lack

of flexibility in the different parts, which a mere routine of ascending and descending sounds might, perhaps, induce in some, and which should be carefully avoided.

Simple as they seem, they present many difficulties to their proper execution; and critical examination will prove that they are worthy of our most careful, best-directed efforts.



Our object in their introduction is to perfect articulation,—to see that sounding movements are flexible and uninterrupted,—and to extend and equalize the respiration. All these movements, it will be remembered, must be simultaneous, and particularly in inhaling air must we avoid spasmodic effort.

Commencing, then, with No. 1, we fill the lungs with air, and proceed to perfectly articulate every

syllable. In the second measure the notes are tied, or slurred, in groups of four, and we use the syllable La, to the first note only of each group. This exercise is to be repeated again and again, alternately articulating, and connecting the notes, till we have produced as many sounds as the lungs or respiratory processes will comfortably permit, and then finish with the long note.

Some find themselves, in the outset, limited to a single repetition of this exercise; but careful practice in gradually extending the respiration will soon enable them to produce a much greater number of sounds properly controlled. The idea is to produce *only* as many sounds as can be delivered comfortably.

No. 2 presents a new idea. The interval between the fourth and fifth notes (Do, Sol) is that of a fifth, and with many quite an effort is made in delivering the upper tone; it receives a greater impetus in articulating than the others, and this exhausts the motive power (air) too rapidly. Care should be taken to produce all the tones, by an equally natural, flexible use of all the parts.

No. 3 is to be practiced in the same careful manner. Its specialty is, that, while it demands the same careful attention as the previous exercises, it keeps a slight increase of tension upon the sounding processes, and thus establishes different conditions favorable for development.

No. 4 is very peculiar in structure, and requires yet more care in its study than the preceding. When we ascend in pitch, the tension of the sounding part is

increased. It will be seen that the first three notes in this exercise are C, E, and G. A certain number of vibrations moving in a given space of time will produce the C, or Do; an increase of tension is needed to produce E, or Mi, and this is followed by still another *increase* in tension in order to produce the G, or Sol. It is this second increase of tension upon the vibratory processes which makes the exercise difficult; for, in its application, one is inclined to make a spasmodic rather than a flexible movement, and this momentarily stops the movement of the sounding parts. That objectionable click, or break, to which we have before referred, is thus heard, which must not be permitted.

These exercises should be practiced from the same degrees of pitch as the first "five-note form," viz. C, D, E, and F, or from such degrees of pitch as the capacity of the pupil permits.

The chanting of poetry, as referred to in Chapter II., will prove a very valuable exercise, the same degrees of pitch being sustained, and the same care being taken to articulate as many words or syllables *only* as *can be produced comfortably.*

See 1st series of exercises in "Voice Building"—five-note forms.

CHAPTER VI.

DEVELOPMENT OF A SCALE.

We will now present a more extended exercise, and consequently a more difficult one. Proper attention, however, given to the different processes of articulating, sounding and breathing, already inculcated, will promptly remove all defects, and present us with an even, true, perfectly-formed scale as a result of our labors.

Our five-note exercises written from C as one, thus: C, D, E, F, G, end with the pitch represented by G. Written from D as one, they terminate with A as the highest note. From E the note upon B is the highest; and from F the note upon C is the highest. This can be better understood, perhaps, by presenting this "five-note form" written upon the staff, thus:

We have here a scale, every sound of which has received careful attention; and we have developed it without study as a scale. Our whole attention has been directed to those movements which form language and produce sound. Perfect movements in

articulating, sounding, and breathing were established upon five notes, first; and these habits remained in force when we applied more tension, or changed the pitch of our exercises.

Let us now proceed with our scale, thus:

In studying this extended form, the syllables Do, Re, Mi, Fa, Sol, La, Si, Do, and Re, are to be used where the tie is not written. Where the tie, or slur, (⁀) is written, use the syllable La, and articulate the lowest and the highest notes only. In ascending this form, using the syllable La, we shall find what we have before referred to, viz.: a tendency in applying force, or tension, to use a spasmodic instead of a flexible effort; and the inevitable result will be a momentary interruption of the volume of sound, as we have said. This does not present itself at any particular degree of pitch, nor always at the same pitch with the same person; neither does it ever present itself when the syllables are used; and it is oftenest heard in ascending passages when the slur is used. We repeat that it is never to be tolerated; and the instructions previously given for the proper development of the "five-note forms" are to be strictly followed in the practice of this more extended exercise.

In ascending, whether with the syllables, or with

the use of the tie, the highest tone of all should receive especial attention. The articulation of each syllable should be absolutely perfect; and the sound should be retained so that it can be criticised and perfected as may be needed. It will be seen that this highest sound is represented by an open note. The idea is to sustain this sound long enough to criticise it properly, and thus enable us to intelligently direct all needed efforts to perfect and control those movements which produce it.

We again remind all that "haste is not speed," and that the greatest care should be used to perfect all movements of speaking, sounding and breathing. All parts used should give us a simultaneous product, which is a result of intelligent design.

See 1st series of "Exercises in Voice Building." Six exercises marked "scales."

CHAPTER VII.

MOVEMENTS AND POSITIONS USED IN FORMING ELEMENTS OF LANGUAGE.

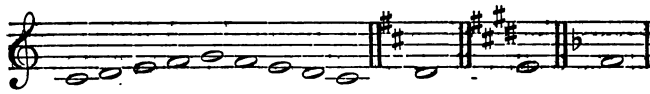
Movements of articulating, sounding and breathing having received consideration, we turn to a most important part of our work; one which cannot receive too close attention. It places in its true light, we think, one specialty in "voice mechanics," and so directs our efforts that those movements which give

forms, or positions, in which musical tones are sustained, are perfectly controlled.

Articulate, audible language presents this duality. It is composed of consonants and vowels. The consonants merely introduce or finish a tone; and sounds are never sustained by their use. They are positions, correctly speaking, of the lips and tip of the tongue, assisted by the teeth. As we have shown, the sound which enables us to perceive that these consonant movements have taken place, is the product of a distinct, different portion of the vocal apparatus.

Elements of language, or vowels, present us those forms, or positions in which sounds are not only sustained, but in which they are located and perfected in quality or texture. Each element or vowel has different forms; that is, it is used to form different words, and as it is thus used, there is a corresponding movement needed to place the articulating organs in proper position. A has four positions, or forms. It occurs in the words bay, bar, ball, bat. E has two forms, as in the words bee, bed. I has two forms, as in the words time, tin; and O has two forms, as in the words tone, top.

Every form or position needed should be assumed with flexibility, and every movement should be as freely made. After a position has once been taken it should be steadily maintained till change is desired. This change in the form, or position should be freely and perfectly made, but without interrupting any other process, and by the application of flexible power only. The necessary exercise is the following, thus:



All the forms belonging to each element of language, or vowel, are to be practiced upon each degree of pitch. Thus, sounding the first note, we form A as in the word day. While sustaining the sound, we produce the four forms, or positions of A. The effect would be represented thus: ā, ă, å, ă. At least two degrees in pitch should be used before interrupting the sound; that is, the four forms of A should be produced upon the pitch of C and D without respiration, so that all parts of the apparatus may be employed. Then ascend and descend this five-note exercise, making all the forms upon each degree of pitch before changing to the next higher or lower tone.

The movements which are used to give the forms of E are peculiar. The first position taken involves the smallest aperture of any used in language. The second position is produced by separating the teeth, as in the word bed; but not so widely, for instance, as in the word, Art. And this we term a suspended articulation. In producing the forms needed for E, we change from a small to a large aperture.

In producing the vowel I, these movements are reversed; and we change from a larger to a smaller aperture. This, also, is a suspended articulation. Taking the position given by sounding I, as in the word Time, we change to the position given in the

word Tin; and the greatest care should be used to secure the exact position required. A little closing of the teeth will change the form to that of E in the word Bee. This, of course, must be avoided; and the position taken and retained must be that only which gives the precise form of the vowel.

In assuming the forms required for articulating O, as in the words, Tone and Top, the most free, flexible use of the features *must* be allowed. Nothing less than this will secure perfect articulation: and it is an invariable rule to which there can be no exceptions, that any defect in the articulation of language will produce a corresponding defect in the quality of the tone.

We now direct especial attention to the action of the body of the tongue. Allowing the natural movements only of all parts used in forming language, we shall find that without special design, or effort, the body of the tongue is performing the all-important duty of properly arranging the cavity of the mouth.

We need not attempt to describe these varied movements. If we articulate perfectly they will be correct, and we call especial attention to that fact.

As we are not discussing the opinions of others, we pass on to other important points, although the temptation to thoroughly exhaust this most important portion of voice building is very strong.

CHAPTER VIII.

CONCENTRATION OF POWER, OR FOCUS OF VIBRATION.

The concentration of all these movements is now desirable. While each part has its especial duty to perform, all the organs must act simultaneously, and the product must be positively located. Without this we could never intelligently present any desired effect whatever.

Air acting upon the vocal chords puts them in motion. These motions, or vibrations, are communicated to the surrounding atmosphere by passing through the mouth, and in so passing out of the mouth, they are, of course governed by the laws which control motion. A body in motion, if unobstructed, moves in a straight line. If it comes in contact with another substance, it is reflected, or thrown off from that substance, according to the law that the angles of incidence and reflection are equal. Vibrations are amenable to these laws; and those which are produced by movements of the vocal chords cannot reach the surrounding atmosphere without coming in contact with different parts of the mouth. Of course they are reflected, or thrown off; and here are two distinct movements given to, what we may term, this cone of vibrations. One is the direct, straight-forward movement given them by expelling

air from the lungs; the other is the reflected movement of contact with portions of the cavity of the mouth. The union of these two movements produces a third, or a rotary motion. In other words, there must be a "focus of vibration;" a point where these vibrations meet, and where they best assimilate and support each other. Our present exercise is to teach us to locate this focus of vibration with positive certainty; so that we can, in every instance, intelligently produce any desired effect.

Let us select the vowel E, and give it the sound which it has in the word Bee. Let every movement be properly made, and one can sensibly feel the interrupted cone of vibrations just inside of the front upper teeth.

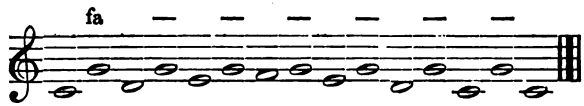
Again; let us select that form of the vowel A used in the word Awe, and sound it in that position; the vibrations are felt in the back part of the mouth. Neither position is favorable for the best development of tone. This is all the room we have, and as we do hear satisfactory tones from our vocal organizations, it follows as a legitimate conclusion, from which there is no escape, that the cone of vibrations must locate between these two extremes.

The true position is about the centre of the arch formed by the roof of the mouth, a little in front of that point, and the vibrations are reflected by the hard palate. Every tone must locate exactly in that position. High or low, little or much, it makes no difference; we repeat, that all tones from this vocal structure must locate in that position or focus of vibration.

The following exercise will assist us in positively locating these vibrations; thus:

Do re mi fa sol la.

The perfect, free-speaking movements of all parts are here required. Without any attempt to produce a particularly loud, or good tone, rapidly ascend these five degrees of pitch, using the syllables as written, and repeat the upper sound with the syllable La, and sustain it. This cone of vibrations will locate itself naturally, in that position to which we have alluded; and by retaining said position we shall soon sense its location. This once secured, use the following exercise to acquire facility in the operation:



Realizing the exact location, or focus of vibration, attack the upper sound with the syllable Fa, using a reasonable quantity of power. Make the effort promptly, and sustain the upper sound in position. Every time the upper note is delivered it should present us with precisely similar results; for thus only can we ensure exactness, and acquire facility in positively locating tones. The lower sounds, Do, Re, Mi, Fa, Mi, Re, Do, do not receive especial attention. They are merely points from which to attack

the highest note, for the positive location of that upper sound is the desired result.

There is studied design in using the syllable Fa for the upper note. It is this: that the consonant F, preceding the vowel A, being a labial, is less likely to induce erratic movements in locating sounds, and thus is more desirable in this instance than any other consonant.

See Exercises in Voice Building, 1st series, page 6, marked "concentration of power."

CHAPTER IX.

INCREASE OF COMPASS AND POWER.

It is now necessary to increase the compass of voices, and to develop greater power or quantity of tone.

The usual method has been to apply the crescendo and diminuendo to every sound, using a scale from C (added line below the staff) to G above the staff, or even to upper C; two full octaves. Power has been applied without a thought as to its intelligent direction, and the organs have been forced beyond their power of endurance. This method has been taught from the very outset; even at the very first lesson.

We are dealing with a muscular fibre, which possesses this peculiarity: it retains habits given it.

Was this not the fact, the ordinary occupations of life would be impossible, and the forming of sounds, and embouchures (lips) for the development of the resources of musical instruments, could not be accomplished.

In sounding with our vocal organizations, a certain tension is applied to the vocal chords, and they move a given number of times in a given space of time. As we ascend, the tension is increased, and the vibrations are correspondingly more rapid, and shorter; as we descend, they are slower and longer. Consequently, the diameter, or size, so to speak, of the upper tones is less than that of the lower ones. It is also in exact ratio; thus: If the diameter of the first tone is one inch, its higher octave will be one-half inch, and the next higher octave a quarter of an inch. As we ascend, then, we diminish the length of vibrations, which increase in rapidity. This can be plainly seen by referring to the scale of a piano-forte, or to any stringed instrument.

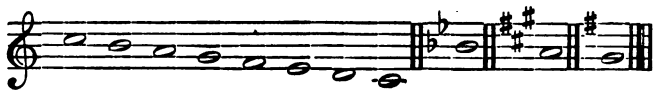
Now we do not admit the propriety of attempting to embellish a thing, (musical tones, or anything else) till we have something to ornament; neither can we conceive of a muscle receiving its best development by diminishing its movement. It is an impossibility. It is true, those higher tones must be had, and to develop them they must be used; but there is a choice in time, and method; and it is not judicious, in our opinion, to attempt in the outset, the successful development of that difficult ornament—the crescendo

and diminuendo. Neither is it possible to successfully nourish and develop a muscle by shortening its movements at the wrong time, and in an ill-directed, erratic manner.

Suppose we select a violin by way of illustration. This instrument needs a habit of vibration given it, not only to make it sensitive to the touch of the bow; but, also, to free it from those resinous particles which obstruct the free movements of its wooden fibres. How is an instrument of this class developed? We answer, from the lower tones upward; and so, instead of using the upper tones, particularly, it is given to some one who plays the second violin, or to a dance player, or to some one who will give the fullest, freest movements to those lower strings.

The human vocal organization is amenable to similar laws of development, and we adopt a course opposite to that usually pursued. Instead, then, of attempting to gain the desired end by contracting the movements of those vibrating parts by any application of ill-directed power, we reverse this, and turn our efforts in an opposite direction.

The following exercise will assist us in developing our method, thus:



Commencing with the upper note, we descend the scale. Each sound is to be perfectly located, and

sustained for a reasonable time, and at least two degrees of pitch are to be sounded at each respiration, using the syllables Do, Si, La, Sol, Fa, Mi, Re, Do.

In sustaining these long-continued sounds, there is, with many, a difficulty in maintaining a steady tone. They allow it to waver and tremble; and this is the result of bad management. First locate the tone properly, then retain it in place by flexible strength supplied from the *body of the tongue*, as the previous chapters have taught us. By this method we shall secure a longer movement in the vibratory processes, in descending our scale, by thus diminishing muscular tension. Each degree lower in pitch is produced by decreasing the tension of the muscles, and this secures a longer vibration; all these movements are also intelligently designed and perfectly located. The result is, that flexible strength is developed in these parts. This, once acquired, can be directed as we please, and so in proper time we can apply this power in sufficient quantities to healthfully develop those upper tones.

The object is to remove nervous sensibility, so that we can have steady, perfect control of the whole apparatus, and at the same time to develop in it lasting, flexible power.

After practicing our scale in this manner, from C as One, lower the pitch one tone, and after that another, and so on as far as the organization will properly allow. Here it is to be observed that no change is to be permitted in the position of the head. The intuition is to lower the head in descending. This should

not be tolerated. It obstructs the movements of those parts which vibrate in sounding, and also modifies the character of the reflected vibrations.

An easy, comfortable, natural position is the best in all cases.

See exercises in "Voice Building" 1st series, page 9. Six exercises marked "Increase of compass and strength."

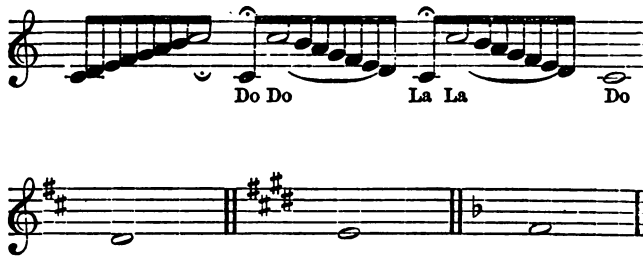
CHAPTER X.

We now proceed with the development of this vocal apparatus, but more especially in an upward direction. Our previous exercises will have so enlarged all our resources, and careful attention to the foregoing rules will have given us such control of the different processes, that we shall progress with positive certainty.

But several important points are yet to be observed; and above all, the greatest care must be taken not to advance too rapidly.

We insist upon it, that our reservoir of lasting strength, so to speak, lies in those longer, flexible, properly-located movements which develop the lower tones, and that these contain within themselves the upper tones. The only difference is in the amount of power, or strength, or tension applied to the vibrating and locating processes.

The following exercise is now needed, thus:



Commencing with the syllables Do, Re, Mi, Fa, Sol, La, Si, Do, we ascend with a free, moderately fast, perfect articulation to the upper note. This we retain, carefully noticing its location, and observing that every part of the organization is controlled by the application of flexible power only. Then articulate the lowest note, and make a pause before delivering the octave. The object is to give ourselves sufficient time to intelligently design and control every needed effort, then deliver the upper note full and free, perfectly located, and steadily retained in position. When this is perfected, descend the scale, using the syllables Do, Si, La, &c., but without losing or or decreasing the power, or quantity of tone. Now repeat the lower tone with the syllable La, and again pause; then attack the upper sound as before, but with the syllable La, instead of Do. Descend, using the tie, or slurring the tones together, and carefully retain the amount of power applied to the upper tone.

After this, change the pitch of the exercise one tone higher, and practice in a similar manner, and so continue to change the pitch a tone, or a half tone

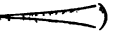
higher, as the capacity of the pupil permits. We cannot too often remind pupils not to advance too rapidly, and above all do not attempt using the organization to its extent of either compass or power, particularly in an upward direction. Progression is nature's law, and we cannot force a vocal, or a human, or any other organization into a healthy condition. "*Early maturity is,*" *positively* "*early decay.*"

In delivering wide intervals in an upward direction, there is, with many, a change in the position of the head, opposite to that before referred to. In this case, many are inclined to raise the head in attacking the upper note, as well as to lower it in descending. This, we hardly need to say, should be avoided. A most important point, however, here presents itself, in the manner of attacking the upper note. The impetus given the volume of air is usually not properly controlled by the simultaneous action of the parts involved; it is a spasmodic effort of muscles whose united movements combine to expel air from the lungs.

Attention should be especially directed to the perfect action of these articulating processes, and to the flexible control of the body of the tongue in locating the tone. This prevents all injury in applying excessive power to the vibrating parts, and surely protects them.

The tones, then, are properly articulated; they are never *squeezed out* by those spasmodic efforts so often applied to abdominal, dorsal, and waist muscles; and which result in positive injury, not only to the vocal apparatus, but to health generally.

CHAPTER XI.

The crescendo () we conceive to be an embellishment, and one of the highest order. In fact, with the exception of the shake, or trill, it is more difficult to perfect than any other. The great difficulty consists, we think, either in not properly locating the smaller body of tone with which we commence it, or in disturbing the cone of vibrations after it has been correctly located.

It is a common failing with performers, after locating a tone properly, and while increasing the quantity of sound, to push the tone out of place; consequently they must sing out of tune.

As we have before remarked, if we place the sound in front of the proper focus of vibration it will be too sharp; if we locate it back of the true focus it will be too flat. It is also to be borne in mind, that in producing a small quantity of tone, we are inclined intuitively, to keep the mouth too nearly closed, while in producing a loud sound, the mouth is freely opened. This changes the character of the tone, besides inclining us to produce tones false in pitch. Room enough should always be afforded the tone, to form well, and its proper location should be steadily maintained.

After thus locating it, gradually increase its size and power, using the greatest care not to allow the

tone to change its position, or focus of vibration. In this way the study of the crescendo becomes easy, and the result sure. There is no possibility of injuring throats by this mode of practice; and we shall conquer the difficulty, and greatly increase the volume of tone in a comparatively short space of time.

The following is the necessary exercise, thus:

The crescendo is to be made upon each sound separately, using the syllable La for each tone. Bear in mind, also, that whether we have little or much tone, it must always preserve its position, or focus of vibration. Locating the tone, then, correctly, gradually increase its quantity.

An increase in the volume of air is necessary, and with many the teeth need to be farther separated while making the crescendo. The quantity of air is easily supplied from the lungs, but the enlarging of the pharynx *to change the direction of the vibrations* is not so easily acquired.

In separating the teeth widely, the tongue naturally recedes toward the throat; this is common to animals as well as human beings. When we articulate the vowel A, as in the syllable La, the teeth are as widely separated as for any articulation in our language, and this intuitive backward movement of the tongue then presents itself. If allowed, it is a manifest violation of that fundamental law which forbids the articulation

of language interrupting the sounding processes. This retrograde movement should never be allowed. Retain the tongue in its usual position, and appeal, especially, to the middle portion of it to support the tone in its position. This being observed, the enlarging of the pharynx, necessary in making the crescendo, becomes easy.

The effect of enlarging the pharynx is this: it gives a greater volume, or size, to the cone of vibrations, and changes their direction. Suppose the capacity of the mouth, ordinarily, to be one inch in diameter, and that of the focus of vibration to be one-half inch; by enlarging the pharynx we increase the diameter *back* of that focus, say half an inch. The focus remaining the same, we change the direction of the vibrations as in the tunnel, or blow-pipe. Carefully locating the tone, then, we gradually enlarge the capacity of the pharynx, while increasing the quantity of power, and thus secure those conditions favorable to the best development of the crescendo.

CHAPTER XII.

As neither the *trill* (shake) nor the *turn* presents us with anything new, in a mechanical point of view, we leave them to be discussed by students as best suits their convenience.

Their beauty and use are freely admitted. Our object has been to illustrate the mechanism of the voice as we understand it; *preparing* or *forming this instrument* to be used for elaborate performances, or otherwise, as the case may be.

We believe that in the mechanical formation of the voice, as in other things, the rules or laws which govern it are few. The adapting of these laws to individual cases, and the reducing of them to practice may present us with infinite experiences. The laws, however, remain the same.

It will be observed by those who notice this work, that our exercises are few and simple; the "five-note form" and the "scale" being all the material used. We have confined ourselves to these forms because they are the simplest means with which to convey ideas; are, moreover, all that is really needed; and are much better, in our opinion, than any other. It is true, that as melodies or as studies, they do not so much please the ear; neither is it desirable that they should; on the contrary, our whole attention should be directed to acquiring perfect control of

all parts of the organization used. We have therefore discarded everything which could distract attention, and have confined ourselves exclusively to such exercises as are needed to illustrate our views.

These exercises might be multiplied indefinitely. Indeed, numerous instances will present themselves in which this is desirable. But however much we may vary them, nothing new will be presented in a mechanical point of view.

Once possessing ideas to labor with, every teacher, and almost every pupil, can multiply and adapt exercises to meet their wants.

So far as we are conversant with authors upon this subject, they all write extended works presenting us with a mass of material, from which, we think, it is exceedingly difficult for any one to select and arrange a connected method of practice. Indeed there are so many contradictory views presented, that we are at a loss to decide which is the correct method.

We have therefore written upon the *mechanism*, or the *mechanical formation* of the voice.

Those who have written musical compositions for the voice have displayed marked ability in that direction. Indeed, no department of musical literature, perhaps, is more complete.

Our work is not designed for any particular class. Elocutionists and public speakers, singers, and readers, will find these ideas, we think, adapted to their wants.

In conclusion, we wish to do justice to our friend, Professor Stacy Baxter, who has adapted this system

to elocutionary purposes, and who is thoroughly qualified to teach this "Method of Voice Building." But for his encouragement and assistance, we should not, probably, have decided to appear before the public.

HORACE R. STREETER.

N. B. Appropriate studies for the further development of this method may be had of the author, at 28 Temple Place; or White & Goullaud, 86 Tremont St. Inquire for Studies in Voice Building. First, Second, and Third Series.